

**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: P. G. ... Examiner #: ... Date: ...  
 Art Unit: ... Phone Number 301-... Serial Number: ...  
 Mail Box and Bldg/Room Location: ... Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

*Final*

Point of Contact:  
 Jan Deland  
 Librarian-Physical Sciences  
 CM1 1E01 Tel: 308-4498

\*\*\*\*\*  
**STAFF USE ONLY**

	Type of Search	Vendors and cost where applicable
Searcher: _____	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: _____	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

=> d his

(FILE 'HOME' ENTERED AT 08:32:41 ON 08 AUG 2001)  
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 08:32:53 ON 08 AUG 2001

E WO98-JP1470/AP, PRN  
L1 1 S E3, E4  
L2 6919 S NATRIURETIC PEPTIDE  
L3 7 S ATRIALNATRIURETIC PEPTIDE  
L4 5779 S ATRIAL NATRIURETIC PEPTIDE  
L5 1114 S BRAIN NATRIURETIC PEPTIDE  
L6 77 S GAMMA(L) L3, L4  
L7 24 S GAMMA(L) L5  
SEL RN L1

FILE 'REGISTRY' ENTERED AT 08:43:04 ON 08 AUG 2001

L8 8 S E1-E8  
L9 5 S 9088-07-7 OR 85637-73-6 OR 114471-18-0 OR 92046-98-5 OR 12112  
L10 6 S L8 NOT L9  
L11 4 S L10 AND PMS/CI  
E ETHANEDIOL/CN  
E C2H6O2/MF  
L12 45 S E3  
L13 14 S L12 AND 1 2 ETHANEDIOL  
L14 ~~29555 S 107-21-1/GRN~~  
L15 11189 S L14 AND (C8H6O4 OR C8H4CL2O2)  
L16 14 S L15 AND 2/NC  
L17 8 S L16 AND 1 4  
L18 6 S L17 NOT (D/ELS OR MAN/CI)  
L19 10 S L11, L18  
E SILICONE/CN  
E SILICONIZE/CN  
E SILICON/CN  
L20 1 S E3

FILE 'HCAPLUS' ENTERED AT 08:55:20 ON 08 AUG 2001

L21 7315 S L9  
L22 9657 S L2-L7, L21  
E SHIONOGI/PA, CS  
E SHIONOG/PA, CS  
L23 8618 S E5-E11  
E SHIMIZU H/AU  
L24 565 S E3-E5  
E SHIMIZU HIRO/AU  
L25 2 S E3  
L26 233 S E53  
E ASADA H/AU  
L27 62 S E3, E7  
E ENDO K/AU  
L28 293 S E3  
E ENDO KAZUAKI/AU  
L29 30 S E3  
L30 43 S L22 AND L23-L29  
L31 35 S L22 AND KIT  
E KIT/CW  
L32 8 S E3, E21 AND L22  
E TEST KIT/CT  
E E4+ALL  
L33 7 S L22 AND E2  
L34 35 S L31-L33  
E CONTAINER/CW  
L35 22033 S E4  
E CONTAINER/CT  
E E4+ALL  
L36 4 S E2+NT AND L22

Point of Contact:  
Jan Delavel  
Librarian-Physical Sciences  
CM1 1E01 Tel: 308-4498

L37	4 S L35 AND L22
L38	4 S CONTAINER AND L22
L39	4 S L36-L38
L40	14 S L19, L20 AND L22 SEL DN 3 5 6 8 10-12
L41	7 S E1-E7 E POLYSILOXANE/CW
L42	24511 S E4 E POLYSILOXANE/CT E POLYSILOXANES/CT
L43	24500 S E3 E SILOXANE/CW
L44	58615 S E3, E4 E SILOXANE/CT E SILOXANES/CT E E3+ALL E E1+ALL
L45	3472 S E1
L46	473 S E3 E SILICON/CT E SILICONE/CT E SILICONES/CT E E3+ALL
L47	3 S E1 E E2
L48	1 S L22 AND L42-L47
L49	8 S L22 AND ?SILICON?
L50	3 S L49 AND L34, L39, L41, L48 E ACRYLIC POLYMER/CT E E15+ALL
L51	4 S E4, E3 AND L22
L52	1 S L51 AND L34, L39, L41 E PLASTIC/CW
L53	3 S E3, E7 AND L22 E PLASTICS/CT E E3+ALL
L54	0 S L22 AND E2, E3
L55	3 S L22 AND E1+NT
L56	12 S L22 AND E43
L57	1 S L22 AND E44
L58	30 S L22 AND PLASTIC?
L59	55 S L22 AND COAT?
L60	37 S L22 AND ?ACRYL?
L61	116 S L22 AND (?STYREN? OR PPG OR PET OR ?TEREPHTHAL? OR POLYPROPYL
L62	0 S SILICONIZE (L) ("L25" OR L 25)
L63	0 S SILICONIZE AND L22
L64	324 S ANALYSIS+NT/CT AND L22
L65	1600 S L9 (L) (ANST/RL OR ANT/RL OR PROC/RL)
L66	25 S L64, L65 AND L34
L67	2 S L64, L65 AND L39
L68	4 S L64, L65 AND L41
L69	3 S L64, L65 AND L48, L50, L52
L70	4 S L64, L65 AND L55-L57
L71	53 S L34, L39, L41, L48, L50, L52, L53, L55, L56, L57, L66-L70
L72	61 S L58-L61 AND L64, L65
L73	7 S L71 AND L72
L74	5 S L73 NOT (RNA OR SECOND)/TI
L75	31 S L66-L70 AND L71
L76	24 S L75 NOT L73
L77	13 S L76 AND (STABILITY OR RIA OR KIT OR RADIOIMMUN? OR IMMUNOASSA
L78	11 S L77 NOT INSTILLATION/TI
L79	54 S L72 NOT L71, L73-L78
L80	4 S L79 AND (CARTRIDGE OR QUANTITATIVE OR STABILITY OR DIRECT MEA
L81	20 S L74, L78, L80
L82	20 S L81 AND L1-L7, L21-L80
L83	3 S L82 AND CONTAIN?

L84 17 S L82 NOT L83  
L85 15 S L83,L84 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)  
L86 5 S L84 NOT L85  
L87 20 S L82,L83  
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 09:41:58 ON 08 AUG 2001

L88 9 S E1-E9  
L89 2 S L8 NOT L88

=> fil reg

FILE 'REGISTRY' ENTERED AT 09:42:55 ON 08 AUG 2001

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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STRUCTURE FILE UPDATES: 7 AUG 2001 HIGHEST RN 350670-45-0

DICTIONARY FILE UPDATES: 7 AUG 2001 HIGHEST RN 350670-45-0

TSCA INFORMATION NOW CURRENT THROUGH January 11, 2001

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

~~Structure search limits have been increased. See HELP SLIMIT~~  
for details.

=> d ide can tot l88

L88 ANSWER 1 OF 9 REGISTRY COPYRIGHT 2001 ACS

RN 121128-24-3 REGISTRY

CN Brain natriuretic peptide, pro- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Natriuretic factor, probrain

OTHER NAMES:

CN .gamma.-Brain natriuretic peptide

CN Natriuretic factor, brain .gamma.

CN Probrain natriuretic peptide

DR 125387-65-7, 123609-21-2

MF Unspecified

CI MAN

SR CA

LC STN Files: BIOSIS, CA, CAPLUS, CHEMCATS, TOXLIT

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

30 REFERENCES IN FILE CA (1967 TO DATE)

10 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

30 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:589

REFERENCE 2: 134:231947

REFERENCE 3: 134:145597

REFERENCE 4: 134:28125

REFERENCE 5: 134:25718

REFERENCE 6: 133:263079

REFERENCE 7: 133:130268

REFERENCE 8: 133:69441

REFERENCE 9: 132:320464

REFERENCE 10: 132:263687

L88 ANSWER 2 OF 9 REGISTRY COPYRIGHT 2001 ACS

RN 114471-18-0 REGISTRY

CN Brain natriuretic peptide (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Natriuretic factor, brain

OTHER NAMES:

CN Atrial natriuretic peptide B

CN B-Type natriuretic peptide

CN Brain natriuretic factor

MF Unspecified

CI MAN

SR CA

LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA,  
CANCERLIT, CAPLUS, CEN, CHEMCATS, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IPA,  
MEDLINE, MRCK\*, PHAR, PROMT, TOXLINE, TOXLIT, USPATFULL  
(\*File contains numerically searchable property data)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

863 REFERENCES IN FILE CA (1967 TO DATE)

9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

863 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:90818

REFERENCE 2: 135:87504

REFERENCE 3: 135:75040

REFERENCE 4: 135:75018

REFERENCE 5: 135:75014

REFERENCE 6: 135:71571

REFERENCE 7: 135:59406

REFERENCE 8: 135:59061

REFERENCE 9: 135:56447

REFERENCE 10: 135:56186

L88 ANSWER 3 OF 9 REGISTRY COPYRIGHT 2001 ACS

RN 92046-98-5 REGISTRY

CN .gamma.-Atrial natriuretic peptide (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN .gamma.-Atriopeptin

OTHER NAMES:

CN .gamma.-Atrial natriuretic factor

CN Atriopeptigen

CN Natriodilatin, atrial pro-

CN Proatrial natriuretic factor

CN Proatriopeptin

CN Pronatriodilatin

DR 92047-40-0, 89147-25-1

MF Unspecified

CI MAN

LC STN Files: BIOSIS, CA, CAPLUS, DDFU, DRUGU, MEDLINE, TOXLIT, USPATFULL

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

200 REFERENCES IN FILE CA (1967 TO DATE)

44 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

## 200 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:75040  
REFERENCE 2: 135:56447  
REFERENCE 3: 135:32140  
REFERENCE 4: 134:348351  
REFERENCE 5: 134:247360  
REFERENCE 6: 134:219797  
REFERENCE 7: 134:176588  
REFERENCE 8: 134:129516  
REFERENCE 9: 134:126430  
REFERENCE 10: 134:66647

L88 ANSWER 4 OF 9 REGISTRY COPYRIGHT 2001 ACS

RN 85637-73-6 REGISTRY

CN Atrial natriuretic peptide (9CI) (CA INDEX NAME)

~~OTHER CA INDEX NAMES:~~

CN Atriopeptin

OTHER NAMES:

CN ANP

CN Atrial natriuretic factor

CN Atrial natriuretic hormone

CN Atrial natriuretic peptide A

CN Atrial natriuretic polypeptide

CN Auriculin

CN Auriculin (peptide)

CN Cardionatrin

CN Natriuretic factor, atrial

DR 86903-70-0

MF Unspecified

CI COM, MAN

LC STN Files: AGRICOLA, AIDSLINE, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,  
CA, CANCERLIT, CAPLUS, CBNB, CEN, CHEMCATS, CIN, CSCHEM, DDFU, DRUGU,  
EMBASE, IPA, MEDLINE, MRCK\*, PHAR, PROMT, TOXLINE, TOXLIT, USPATFULL  
(\*File contains numerically searchable property data)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

6609 REFERENCES IN FILE CA (1967 TO DATE)

149 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

6612 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:97475  
REFERENCE 2: 135:90818  
REFERENCE 3: 135:90773  
REFERENCE 4: 135:87504  
REFERENCE 5: 135:86832  
REFERENCE 6: 135:75072  
REFERENCE 7: 135:75040  
REFERENCE 8: 135:75033

REFERENCE 9: 135:75018

REFERENCE 10: 135:74755

L88 ANSWER 5 OF 9 REGISTRY COPYRIGHT 2001 ACS

RN 25038-59-9 REGISTRY

CN Poly(oxy-1,2-ethanediylloxycarbonyl-1,4-phenylenecarbonyl) (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 1,4-Benzenedicarboxylic acid, dimethyl ester, polymer with 1,2-ethanediol

CN 1,4-Benzenedicarboxylic acid, polymer with 1,2-ethanediol

CN 100G

CN 100Q80D

CN 38RL07

CN 50E63S

CN 50QE02

CN 551R

CN 6CF53

CN 75E20

CN A 04-104

CN A 1300

CN A 4100

CN A 4150

CN A 4300

CN A 4350

CN A 7300

CN AA 200

CN AA 210

CN AGS 5

CN Amilar

CN ANF

CN APGP 00

CN Arnite A

CN Arnite A 004

CN Arnite A 02-101

CN Arnite A 04-102

CN Arnite A 04-120

CN Arnite A 04-300

CN Arnite A 04-900

CN Arnite A 06-100

CN Arnite A 06-101

CN Arnite A 06-700K

CN Arnite A 160

CN Arnite A 200

CN Arnite A 300

CN Arnite AV 4-331

CN Arnite D 04-300

CN Arnite DO 2-300

CN Arnite DO 4-300

CN Arnite FP 800

CN Arnite G

CN Arnite G 600

CN Azmet CM 32350

CN B 325PET

CN B 73

CN B 73 (polyester)

CN B 73L

CN B 90N

CN BAGA 5018

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY

AR 9003-68-3, 9003-71-8, 36493-11-5

DR 9009-28-3, 9078-56-2, 168317-02-0, 162430-09-3, 159202-79-6, 159250-45-0, 128279-82-3, 122636-52-6, 122878-94-8, 126465-00-7, 126904-11-8, 54174-21-9, 123759-98-8, 124364-61-0, 59678-67-0, 132965-70-9, 135151-67-6, 97666-67-6, 104492-25-3, 67166-79-4, 114013-63-7, 50957-87-4,

119574-63-9, 61036-90-6, 61584-27-8, 61811-51-6, 109617-01-8, 109617-15-4,  
 65430-85-5, 37310-81-9, 141444-41-9, 68417-76-5, 137191-38-9, 137261-98-4,  
 137263-39-9, 137263-97-9, 73201-87-3, 73379-71-2, 145808-20-4, 70699-75-1,  
 71119-53-4, 71343-17-4, 76688-71-6, 154214-17-2, 143244-36-4, 85410-98-6,  
 85764-49-4, 92769-05-6, 82446-87-5, 88385-73-3, 89234-24-2, 89338-48-7,  
 89493-30-1, 53025-16-4, 53025-17-5, 108251-89-4, 116094-83-8, 118442-18-5,  
 118442-19-6, 156930-37-9, 157352-06-2, 157884-54-3, 184921-70-8,  
 185351-77-3, 185351-79-5, 186467-32-3, 189399-07-3, 197527-78-9,  
 198085-75-5, 203009-23-8, 223585-35-1

MF (C10 H8 O4)n

CI PMS, COM

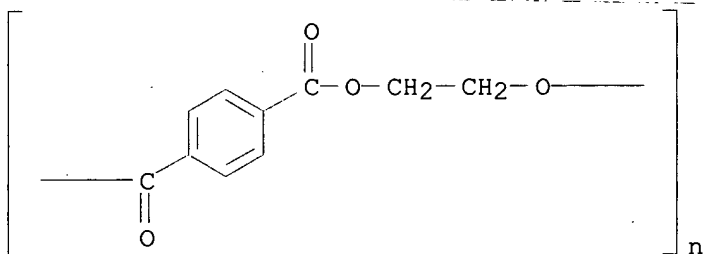
PCT Polyester

LC STN Files: AGRICOLA, ANABSTR, APILIT, APILIT2, APIPAT, APIPAT2,  
 ASMDATA\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS,  
 CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DETHERM\*,  
 EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS, NIOSHTIC,  
 PDLCOM\*, PHAR, PIRA, PLASPEC\*, PROMT, RTECS\*, TOXLINE, TOXLIT,  
 USPATFULL, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, TSCA\*\*, WHO

(\*\*Enter CHEMLIST File for up-to-date regulatory information)



48372 REFERENCES IN FILE CA (1967 TO DATE)

583 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

48484 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:101353

REFERENCE 2: 135:101342

REFERENCE 3: 135:100814

REFERENCE 4: 135:100671

REFERENCE 5: 135:100344

REFERENCE 6: 135:100314

REFERENCE 7: 135:100196

REFERENCE 8: 135:100195

REFERENCE 9: 135:100189

REFERENCE 10: 135:99876

L88 ANSWER 6 OF 9 REGISTRY COPYRIGHT 2001 ACS

RN 9088-07-7 REGISTRY

CN Natriuretic peptide (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Natriuretic factor

OTHER NAMES:



CN Natriuretic hormone  
CN Vascular sensitizing factor  
MF Unspecified  
CI PMS, MAN  
PCT Manual registration  
LC STN Files: AGRICOLA, AIDSLINE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA,  
CANCERLIT, CAPLUS, CIN, EMBASE, MEDLINE, PROMT, TOXLINE, TOXLIT,  
USPATFULL

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

380 REFERENCES IN FILE CA (1967 TO DATE)

9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

380 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:70935

REFERENCE 2: 135:57390

REFERENCE 3: 135:56153

REFERENCE 4: 135:41028

REFERENCE 5: 135:548

REFERENCE 6: 134:361365

REFERENCE 7: 134:338820

REFERENCE 8: 134:325646

REFERENCE 9: 134:293070

REFERENCE 10: 134:231933

L88 ANSWER 7 OF 9 REGISTRY COPYRIGHT 2001 ACS

RN 9003-53-6 REGISTRY

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 105E

CN 138F

CN 143E

CN 144C

CN 144CKG2

CN 148H

CN 158K

CN 158KR

CN 158L-KG2

CN 168N

CN 168N003 Clear

CN 168N15

CN 16ERA8

CN 1800P

CN 271T

CN 2V62F

CN 31N

CN 31N (styrene polymer)

CN 333AZY

CN 3A

CN 454H

CN 456M

CN 473E

CN 475K

CN 550P

CN 550P (styrene polymer)

CN 615APR

CN 666D

CN 666R  
CN 666U  
CN 666U26  
CN 678U  
CN 679R  
CN 685D  
CN 686E  
CN 76RES7116  
CN 825TV-PS  
CN 9M62  
CN 9M62C  
CN A 180  
CN A 180 (vinyl polymer)  
CN A 3-80  
CN A 75  
CN A 75 (vinyl polymer)  
CN Adion H  
CN Afcolene  
CN Afcolene 492  
CN Afcolene 666  
CN Afcolene S 100  
CN Amoco 18240

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for  
DISPLAY

DR 12627-11-1, 9044-64-8, 9055-91-8, 11120-46-0, 172641-48-4, 172867-64-0,  
~~53986-84-8, 54578-24-4, 54596-41-7, 58033-91-3, 56451-72-0, 56748-62-0,~~  
57657-06-4, 55128-06-8, 55465-00-4, 60120-16-3, 60328-46-3, 120037-99-2,  
63849-49-0, 98444-30-5, 105270-05-1, 51609-83-7, 51609-87-1, 60880-98-0,  
61584-89-2, 61584-90-5, 137262-45-4, 78354-47-9, 144637-93-4, 86090-91-7,  
81834-12-0, 39470-87-6, 40494-15-3, 52932-49-7, 53112-49-5, 117079-77-3,  
260975-79-9

MF (C8 H8)x

CI PMS, COM

PCT Polystyrene

LC STN Files: ADISINSIGHT, AGRICOLA, AIDSLINE, ANABSTR, APILIT, APILIT2,  
APIPAT, APIPAT2, ASMDATA\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA,  
CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX,  
CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DIOGENES, DRUGU,  
EMBASE, IFICDB, IFIPAT, IFIUDB, IMSDIRECTORY, IPA, MEDLINE, MSDS-OHS,  
NIOSHTIC, PDLCOM\*, PIRA, PLASPEC\*, PROMT, RTECS\*, SPECINFO, TOXLINE,  
TOXLIT, TULSA, ULIDAT, USPATFULL, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

CM 1

CRN 100-42-5

CMF C8 H8

H<sub>2</sub>C=CH-Ph

79458 REFERENCES IN FILE CA (1967 TO DATE)

7383 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

79571 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:101647

REFERENCE 2: 135:100671

REFERENCE 3: 135:99854

REFERENCE 4: 135:99841

REFERENCE 5: 135:99836  
REFERENCE 6: 135:98888  
REFERENCE 7: 135:97838  
REFERENCE 8: 135:97827  
REFERENCE 9: 135:97822  
REFERENCE 10: 135:97815

L88 ANSWER 8 OF 9 REGISTRY COPYRIGHT 2001 ACS  
RN 9003-07-0 REGISTRY  
CN 1-Propene, homopolymer (9CI) (CA INDEX NAME)  
OTHER NAMES:  
CN 001PF  
CN 03P10/01  
CN 04P10/01  
CN 05P10-040  
CN 1-Propene polymer  
CN 1080F  
CN 1148TC  
CN 1184L  
CN 1200FH  
CN 120SPW-L  
CN 13T10A  
CN 1501F  
CN 150AG3  
CN 19MN10  
CN 1EPP  
CN 2000C  
CN 215H  
CN 219D  
CN 21E953E866  
CN 230M4  
CN 243.4A  
CN 24MB200  
CN 260LLG202  
CN 3030BN1  
CN 3050MNI  
CN 33MW247  
CN 3435RG  
CN 3501F  
CN 3502L  
CN 3701T  
CN 4048PP  
CN 40RL01  
CN 413S  
CN 4200E  
CN 4352E1  
CN 4500J  
CN 4506JP  
CN 4700JG  
CN 4800JG  
CN 50RXC7  
CN 51S07A  
CN 5824S  
CN 598A  
CN 5A08  
CN 5A15  
CN 5A64  
CN 5C08  
CN 5C13  
CN 5C64  
CN 610A

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for  
DISPLAY

DR 9044-59-1, 122933-37-3, 53664-32-7, 58318-95-9, 131801-18-8, 123243-04-9,  
60440-68-8, 132823-57-5, 133757-66-1, 95751-29-4, 104625-25-4, 37329-03-6,  
37370-57-3, 112024-68-7, 139465-75-1, 73989-50-1, 144855-91-4, 76560-78-6,  
148464-77-1, 143710-36-5, 52440-18-3, 52622-64-7, 156680-70-5,  
169741-70-2, 178535-67-6, 186777-48-0, 220286-70-4, 262610-59-3,  
268745-65-9, 301161-99-9, 343259-03-0

MF (C3 H6)x

CI PMS, COM

PCT Polyolefin

LC STN Files: ADISINSIGHT, AGRICOLA, ANABSTR, APILIT, APILIT2, APIPAT,  
APIPAT2, ASMDATA\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS,  
CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB,  
DDFU, DETHERM\*, DIOGENES, DRUGU, EMBASE, HSDB\*, IFICDB, IFIPAT, IFIUDB,  
IPA, MEDLINE, MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PLASPEC\*, PROMT,  
RTECS\*, TOXLINE, TOXLIT, TULSA, ULIDAT, USAN, USPATFULL, VTB  
(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

CM 1

CRN 115-07-1

CMF C3-H6

H<sub>3</sub>C-CH=CH<sub>2</sub>

74611 REFERENCES IN FILE CA (1967 TO DATE)

4954 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

74729 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:101647

REFERENCE 2: 135:100344

REFERENCE 3: 135:99879

REFERENCE 4: 135:99821

REFERENCE 5: 135:99780

REFERENCE 6: 135:97563

REFERENCE 7: 135:97557

REFERENCE 8: 135:97542

REFERENCE 9: 135:97540

REFERENCE 10: 135:97538

L88 ANSWER 9 OF 9 REGISTRY COPYRIGHT 2001 ACS

RN 9002-88-4 REGISTRY

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 0134M

CN 04052N

CN 04452N

CN 0488G

CN 05054P

CN 08064N

CN 08065E

CN 09054N

CN 10062N  
CN 100J  
CN 104A1  
CN 107-02K  
CN 107-61K  
CN 10780-64A  
CN 10A  
CN 10P  
CN 10X  
CN 110J  
CN 112A  
CN 1150D  
CN 120J  
CN 120J (polyolefin)  
CN 130J  
CN 153-01K  
CN 1550P  
CN 15817B  
CN 16MA400  
CN 16SP0  
CN 16SPO  
CN 1700J  
CN 175K  
CN 1810H  
CN 186R

CN 18D  
CN 19E  
CN 19E (polyolefin)  
CN 1C7A  
CN 1F7B  
CN 1I2A  
CN 1I2A1  
CN 1I50A  
CN 1IA1  
CN 2010HF  
CN 204-07K  
CN 2040MN55  
CN 2100GP  
CN 2100J  
CN 2100JH  
CN 210H  
CN 210JZ

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for  
DISPLAY

DR 12728-29-9, 9041-32-1, 9082-15-9, 11098-28-5, 11119-24-7, 11119-25-8,  
177529-72-5, 177771-90-3, 177893-37-7, 163751-84-6, 174594-04-8,  
126040-16-2, 126040-17-3, 126879-40-1, 53238-84-9, 53568-47-1, 53850-97-8,  
58391-66-5, 56833-20-6, 57158-09-5, 64296-52-2, 62449-67-6, 63100-66-3,  
101484-63-3, 101484-75-7, 101484-82-6, 95327-26-7, 95918-19-7, 95918-26-6,  
103843-11-4, 66797-04-4, 66829-22-9, 106705-26-4, 113690-26-9,  
114013-55-7, 51274-11-4, 51329-76-1, 51329-83-0, 114451-17-1, 136958-80-0,  
37310-97-7, 37331-40-1, 37349-69-2, 37353-94-9, 112821-11-1, 67383-00-0,  
67462-86-6, 73730-00-4, 73989-65-8, 74238-84-9, 74238-85-0, 74238-87-2,  
74812-17-2, 70431-24-2, 71212-21-0, 142985-61-3, 150632-74-9, 79818-93-2,  
86089-97-6, 86168-38-9, 81544-07-2, 81604-67-3, 87521-12-8, 91449-15-9,  
91728-25-5, 39307-01-2, 39421-91-5, 52434-22-7, 110736-46-4, 156799-29-0,  
160612-77-1, 161051-67-8, 183076-46-2, 184182-05-6, 187175-95-7,  
189120-95-4, 202876-24-2, 211174-40-2, 211866-91-0, 211866-97-6,  
212134-14-0, 213018-57-6, 214692-40-7, 220674-43-1, 253608-55-8

MF (C2 H4)x

CI PMS, COM

PCT Polyolefin

LC STN Files: AGRICOLA, ANABSTR, APILIT, APILIT2, APIPAT, APIPAT2,  
ASMDATA\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS,  
CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN,  
CSCHEM, CSNB, DDFU, DETHERM\*, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT,

IFIUDB, IMSDIRECTORY, IPA, MEDLINE, MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*,  
PIRA, PLASPEC\*, PROMT, RTECS\*, SYNTHLINE, TOXLINE, TOXLIT, TULSA,  
USPATFULL, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

CM 1

CRN 74-85-1

CMF C2 H4

H<sub>2</sub>C=CH<sub>2</sub>

130878 REFERENCES IN FILE CA (1967 TO DATE)

9801 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

131167 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:101647

REFERENCE 2: 135:101478

REFERENCE 3: 135:101161

REFERENCE 4: 135:101038

REFERENCE 5: 135:99881

REFERENCE 6: 135:99821

REFERENCE 7: 135:99795

REFERENCE 8: 135:99780

REFERENCE 9: 135:99603

REFERENCE 10: 135:98718

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FILE LAST UPDATED: 7 Aug 2001 (20010807/ED)

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published in CA from 1947 to 1966.

=> d 183 all tot

L83 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2001 ACS

AN 1999:299573 HCAPLUS

DN 130:292093

TI A method for suppressing the decomposition of **natriuretic peptides** and an improved assay of **natriuretic peptides** using this method.

IN Shimizu, Hiroyuki; Asada, Hidehisa; Endo, Kazuaki

PA Shionogi & Co., Ltd., Japan

SO PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM G01N033-48

ICS G01N033-68; G01N033-53

CC 2-1 (Mammalian Hormones)

Section cross-reference(s): 14

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9922235	A1	19990506	WO-1998-JP1470	19980331 <--
	W:				
	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,				
	DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG,				
	KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO,				
	NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA,				
	UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI,				
	FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM,				
	GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9865208	A1	19990517	AU 1998-65208	19980331 <--
	EP 1030177	A1	20000823	EP 1998-911128	19980331 <--
	R:				
	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				
	IE, FI				
PRAI	JP 1997-292982	A	19971024		
	WO 1998-JP1470	W	19980331	<--	
AB	A method is described for suppressing the decompn. of mammalian <b>natriuretic peptides</b> , in particular, BNP by using <b>containers</b> wherein the surface contacting with samples is made of the material capable of suppressing the activation of a peptide-decomp. substance (e.g. proteinase). By this method, samples for assaying <b>natriuretic peptides</b> can be conveniently collected in a stable condition. Also, a reliable method is provided for assaying <b>natriuretic peptides</b> using these <b>containers</b> .				
ST	<b>natriuretic peptide</b> stability proteinase container assay				
IT	<b>Blood analysis</b>				
	Clinical analysis				
	Containers				
	Decomposition				
	Diagnosis				
	Dog (Canis familiaris)				
	Heart diseases				
	Hominidae				
	Immunoradiometric assay				
	Mammal (Mammalia)				
	Mouse				
	Rat				
	Stabilizing agents				
	Swine				
	Test kits				
	(method for suppressing decompn. of <b>natriuretic</b>				

- peptides and improved assay of **natriuretic peptides** using method)
- IT **Acrylic polymers, uses**  
Plastics, uses  
Polyesters, uses  
Polysiloxanes, uses  
RL: NUU (Nonbiological use, unclassified); USES (Uses)  
(method for suppressing decompn. of **natriuretic peptides** and improved assay of **natriuretic peptides** using method)
- IT **9088-07-7, Natriuretic peptide**  
**114471-18-0, Brain natriuretic peptide**  
RL: **ANT (Analyte)**; PEP (Physical, engineering or chemical process); THU (Therapeutic use); **ANST (Analytical study)**; BIOL (Biological study); **PROC (Process)**; USES (Uses)  
(method for suppressing decompn. of **natriuretic peptides** and improved assay of **natriuretic peptides** using method)
- IT **9001-92-7, Proteinase**  
RL: ARU (Analytical role, unclassified); BAC (Biological activity or effector, except adverse); ANST (Analytical study); BIOL (Biological study)  
(method for suppressing decompn. of **natriuretic peptides** and improved assay of **natriuretic peptides** using method)
- IT **9087-70-1, Aprotinin**  
RL: ARU (Analytical role, unclassified); NUU (Nonbiological use, unclassified); ANST (Analytical study); USES (Uses)  
(method for suppressing decompn. of **natriuretic peptides** and improved assay of **natriuretic peptides** using method)
- IT **9002-88-4 9003-07-0 9003-53-6**  
**25038-59-9, Poly(ethylene terephthalate), uses**  
RL: NUU (Nonbiological use, unclassified); USES (Uses)  
(method for suppressing decompn. of **natriuretic peptides** and improved assay of **natriuretic peptides** using method)
- RE.CNT 3
- RE
- (1) Anon; Biochemical and Biophysical Research Communications 1989, V161(3), P1177
- (2) Anon; Clin Chem 1996, V42(10), P1627
- (3) Anon; Pharmacology & Toxicology 1991, V68(4), P276
- L83 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2001 ACS
- AN 1998:411637 HCAPLUS
- DN 129:193558
- TI Stability of **brain natriuretic peptide** in blood samples
- AU **Shimizu, Hiroyuki**; Aono, Kazuyoshi; Masuta, Keiichi; Misaki, Atsushi; **Asada, Hidehisa**; Teraoka, Hiroshi
- CS Diagnostic Science, **Shionogi & Co., Ltd.**, Japan
- SO Igaku to Yakugaku (1998), 39(4), 845-847  
CODEN: IGYAEI; ISSN: 0389-3898
- PB Shizen Kagakusha
- DT Journal
- LA Japanese
- CC 63-3 (Pharmaceuticals)  
Section cross-reference(s): 9
- AB Stability of immunoreactivity of human **brain natriuretic peptide** (BNP) in blood specimens was investigated. After the addn. of chem. synthesized BNP-32 into the venous blood, the blood samples were stored in different kinds of tubes to 72 h at room temp. The results indicated that BNP-32 in the whole blood preserved in the tubes of **poly(ethylene terephthalate) (PET)**



or **siliconized** tubes remained stable while BNP-32 in those stored in the non-treated glass tubes lost its immunoreactivity rapidly. The result also indicated that stability of BNP-32 in the plasma samples was equal to that in the whole blood when the samples were stored in the **siliconized PET** tubes. In the glass tubes, however, BNP-32 in the plasma was inactivated more rapidly than in the whole blood. Avoiding contact of blood samples with glass surfaces should make possible prevention of inactivation of BNP immunoreactivity and allow storage of BNP-contg. blood samples as whole blood.

ST **brain natriuretic peptide** blood storage tube

IT Blood preservation

**Medical containers**

(stability of **brain natriuretic peptide**  
in blood samples stored in glass vs. **poly(ethylene terephthalate)**)

IT Glass, biological studies

RL: ADV (Adverse effect, including toxicity); DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(stability of **brain natriuretic peptide**  
in blood samples stored in glass vs. **poly(ethylene terephthalate)**)

IT Polyesters, biological studies

RL: BAC (Biological activity or effector, except adverse); DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(stability of **brain natriuretic peptide**  
in blood samples stored in glass vs. **poly(ethylene terephthalate)**)

IT **25038-59-9, Polyethylene terephthalate,**  
biological studies

RL: BAC (Biological activity or effector, except adverse); DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(stability of **brain natriuretic peptide**  
in blood samples stored in glass vs. **poly(ethylene terephthalate)**)

IT **114471-18-0, Brain natriuretic peptide**

RL: BPR (Biological process); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(stability of **brain natriuretic peptide**  
in blood samples stored in glass vs. **poly(ethylene terephthalate)**)

L83 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2001 ACS

AN 1996:623919 HCAPLUS

DN 125:293273

TI Analytical performance and clinical usefulness of a commercially available IRMA kit for measuring **atrial natriuretic peptide** in patients with heart failure

AU Clerico, Aldo; Iervasi, Giorgio; Del Chicca, Maria Grazia; Maffei, Silvia; Berti, Sergio; Sabatino, Laura; Turchi, Stefano; Cazzuola, Franco; Manfredi, Cristina; et al.

CS Lab. Cardiovascular Endocrinology, CNR Inst. Clinical Physiology, Pisa, 56100, Italy

SO Clin. Chem. (Washington, D. C.) (1996), 42(10), 1627-1633

CODEN: CLCHAU; ISSN: 0009-9147

DT Journal

LA English

CC 2-1 (Mammalian Hormones)

Section cross-reference(s): 14

AB We evaluated the anal. characteristics and clin. usefulness of a com. available IRMA kit for measuring plasma concns. of

**atrial natriuretic peptide** (ANP) in healthy subjects and in patients with heart failure. The method uses two monoclonal antibodies prepd. against sterically remote epitopes of the ANP

mol.; the first antibody is coated on the solid-phase beads, and the second is radiolabeled with <sup>125</sup>I. Fifty-nine healthy subjects and 77 patients with heart failure were studied. After subjects had rested 20 min in a recumbent position, blood samples were collected from a brachial vein into ice-chilled disposable **polypropylene** tubes **contg.** aprotinin and EDTA. Plasma samples were immediately sepd. by centrifugation and stored at -20.degree. until assay. The working range (CV <15%) was 10-2000 ng/L. The detection limit (2.13 +/- .091 ng/L) was similar to those reported for other IRMAs but was much better than those of RIAs. For healthy subjects, the results of this method (18.0 +/- 10.6 ng/L, range 4.7-63 ng/L, median 16.7 ng/L, n = 59) were similar to those generally reported for the most accurate methods, i.e., those using preliminary extn. and chromatog. purifn. of plasma samples. Measured plasma ANP was significantly assocd. with the severity of clin. symptoms, i.e., NYHA class (ANOVA, P <0.0001), and with the left ventricular ejection fraction (n = 62, r = 0.618, P <0.0001). Patients with severe heart failure showed greatly increased values (NYHA III-IV: 257.4 +/- 196.6 ng/L, n = 23).

ST IRMA atriopeptin detn heart failure

IT **Blood analysis**

(atriopeptin IRMA **kit** anal. performance and clin. usefulness in patients with heart failure)

IT Heart, disease

(failure, atriopeptin IRMA **kit** anal. performance and clin. usefulness in patients with heart failure)

IT **Immunoassay**

(immunoradiometric assay, atriopeptin IRMA **kit** anal. performance and clin. usefulness in patients with heart failure)

IT **85637-73-6, Atrial natriuretic peptide**

RL: **ANT (Analyte)**; BOC (Biological occurrence); **ANST (Analytical study)**; BIOL (Biological study); OCCU (Occurrence)  
(atriopeptin IRMA **kit** anal. performance and clin. usefulness in patients with heart failure)

=> d 184 all tot

L84 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2001 ACS

AN 2001:182222 HCAPLUS

DN **134:348523**

TI Degradation of human **brain natriuretic peptide**

(BNP) by contact activation of blood coagulation system

AU **Shimizu, H.**; Aono, K.; Masuta, K.; **Asada, H.**; Misaki, A.; Teraoka, H.

CS Diagnostics Department, 2-5-1 Mishima, **Shionogi** and Co. Ltd, Osaka, Settsu, 566-0022, Japan

SO Clin. Chim. Acta (2001), 305(1-2), 181-186

CODEN: CCATAR; ISSN: 0009-8981

PB Elsevier Science Ltd.

DT Journal

LA English

CC 2-10 (Mammalian Hormones)

Section cross-reference(s): 63

AB **Brain natriuretic peptide** (BNP) and

**atrial natriuretic peptide** (ANP) were added to venous blood samples from healthy volunteers, and incubated in tubes made of various materials. The residual immunoreactivity was measured with RIA for BNP and ANP. In blood samples stored in glass tubes, immunoreactivity of ANP was more stable than that of BNP. In **siliconized** glass or **PET** tubes, however, BNP immunoreactivity was more stable than ANP. The activation of blood coagulation factors was evaluated from the kallikrein activity in plasma. Kallikrein activity was increased in plasma stored in glass tube while it was negligible in plasma stored in **siliconized** glass or **PET** tubes. In kaolin-activated plasma, more rapid BNP degradn. and higher kallikrein activity were obsd. The authors' results indicated that the blood coagulation factors, esp.

- kallikrein, played an important role in digestion of BNP.
- ST **brain natriuretic peptide** contact activation  
blood coagulation system; collecting tube material BNP degrading blood  
coagulation factor
- IT Blood plasma  
(degrading of human **brain natriuretic peptide**  
by contact activation of blood coagulation system in collecting tubes)
- IT Blood-coagulation factors  
RL: BAC (Biological activity or effector, except adverse); BIOL  
(Biological study)  
(degrading of human **brain natriuretic peptide**  
by contact activation of blood coagulation system in collecting tubes)
- IT Glass, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(degrading of human **brain natriuretic peptide**  
by contact activation of blood coagulation system in collecting tubes)
- IT Polyesters, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(degrading of human **brain natriuretic peptide**  
by contact activation of blood coagulation system in collecting tubes)
- IT Kaolin, biological studies  
RL: BAC (Biological activity or effector, except adverse); BIOL  
(Biological study)  
(degrading of human **brain natriuretic peptide**  
by contact activation of blood coagulation system in kaolin-activated  
plasma)
- IT Glass, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(siliconized; degrading of human **brain  
natriuretic peptide** by contact activation of blood  
coagulation system in collecting tubes)
- IT Medical goods  
(tubes; degrading of human **brain natriuretic  
peptide** by contact activation of blood coagulation system in  
collecting tubes)
- IT 85637-73-6, **Atrial natriuretic peptide**  
RL: BPR (Biological process); BIOL (Biological study); PROC  
(Process)  
(degrading of human **brain natriuretic peptide**  
and atriopeptin by contact activation of blood coagulation system in  
collecting tubes)
- IT 9001-01-8, Kallikrein  
RL: BAC (Biological activity or effector, except adverse); BIOL  
(Biological study)  
(degrading of human **brain natriuretic peptide**  
by contact activation of blood coagulation system in collecting tubes)
- IT 114471-18-0, **Brain natriuretic peptide**  
RL: BPR (Biological process); BIOL (Biological study); PROC  
(Process)  
(degrading of human **brain natriuretic peptide**  
by contact activation of blood coagulation system in collecting tubes)
- IT 25038-59-9, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(degrading of human **brain natriuretic peptide**  
by contact activation of blood coagulation system in collecting tubes)

RE.CNT 30

RE

- (1) Cochrane, C; J Exp Med 1973, V138, P1564 HCAPLUS
- (2) Connelly, J; Proc Natl Acad Sci USA 1985, V82, P8737 HCAPLUS
- (3) Erdos, E; FASEB J 1989, V3, P145 HCAPLUS
- (4) Espana, F; J Lab Clin Med 1983, V102, P487 HCAPLUS
- (5) Garrett, J; Histochem J 1985, V17, P805 HCAPLUS
- (6) Griffin, J; Proc Natl Acad Sci USA 1976, V73, P2554 HCAPLUS
- (7) Hoffmeister, H; Circulation 1995, V91, P2520 MEDLINE
- (8) Iwamoto, I; J Leukoc Biol 1991, V49, P116 HCAPLUS
- (9) Johnson, A; Am Rev Respir Dis 1985, V132, P564 HCAPLUS

- (10) Kono, M; Jpn Soc Nuc Med Tech 1993, V13, P2 HCAPLUS
- (11) Malfroy, B; Nature 1978, V276, P523 HCAPLUS
- (12) Matsumura, T; J Clin Invest 1996, V97, P2192 HCAPLUS
- (13) McDonagh, T; Lancet 1998, V351, P9 MEDLINE
- (14) Mukoyama, M; Lancet 1990, V335, P801 MEDLINE
- (15) Omland, T; Circulation 1996, V93, P1963 HCAPLUS
- (16) Ratnoff, O; J Clin Invest 1961, V40, P803 HCAPLUS
- (17) Shimada, T; J Biochem (Tokyo) 1985, V97, P429 HCAPLUS
- (18) Shimizu, H; Clin Chim Acta 1999, V285, P169 HCAPLUS
- (19) Shipp, M; Blood 1991, V78, P1834 HCAPLUS
- (20) Shipp, M; Nature 1990, V347, P394 HCAPLUS
- (21) Sugo, T; Eur J Biochem 1985, V146, P43 HCAPLUS
- (22) Takada, Y; Biochem J 1985, V232, P851 HCAPLUS
- (23) Tateyama, H; Biochem Biophys Res Commun 1992, V185, P760 HCAPLUS
- (24) Tchoupe, J; Biochim Biophys Acta 1991, V1076, P149 HCAPLUS
- (25) Tsutamoto, T; Am Heart J 1989, V117, P599 MEDLINE
- (26) Tsutamoto, T; Circulation 1997, V96, P509 MEDLINE
- (27) Vanneste, Y; Biochem Biophys Res Commun 1990, V173, P265 HCAPLUS
- (28) Vanneste, Y; Biochem J 1990, V269, P801 HCAPLUS
- (29) Yasue, H; Circulation 1994, V90, P195 HCAPLUS
- (30) Yoshimura, M; Circulation 1993, V87, P464 MEDLINE

L84 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2001 ACS

AN 2001:119273 HCAPLUS

DN 134:231941

TI **B-type natriuretic peptide** (BNP) -  
validation of an immediate response assay

AU Vogeser, Michael; Jacob, Karl

CS Institute of Clinical Chemistry, Ludwig-Maximilians-Universitat Munich -  
Grosshadern, Munich, Germany

SO Clin. Lab. (Heidelberg, Ger.) (2001), 47(1+2), 29-33

CODEN: CLLAFP; ISSN: 0941-2131

PB Verlag Klinisches Labor

DT Journal

LA English

CC 2-1 (Mammalian Hormones)

Section cross-reference(s): 14

AB B-type **natriuretic peptide**, a proteohormone secreted

by the left ventricle in response to wall-tension, is a promising lab. parameter for the detection and follow-up of heart failure. In this report anal. validation data of a non-isotopic point-of-care testing system for the quant. detn. of BNP (Triage BNP, Biosite, USA) are given. Despite a very short turn-around time of about 10 min the assay proved to be reproducible (interassay coeff. of variation of 8.4% and 8.0% at concns. of 19.3 ng/l and 392 ng/l, resp.), linear ( $r = 0.998$ , from 5 ng/l to 818 ng/l), and rugged with respect to common interferents; compared to the widely used SHIONORIA BNP assay (CIS, France) higher results were found (Triage-BNP = 1.52 .times. SHIONORIA BNP - 7.0 ng/l) with a relatively close correlation of the results ( $r = 0.935$ ). It is concluded that the Triage BNP assay meets the anal. requirements for further clin. validation and may allow a more widespread clin. use of BNP detn. in contrast to competing assays with long turn-around times.

ST BNP detn blood Triage **kit** immunoassay heart failure

IT **Blood analysis**

Diagnosis

Prognosis

(BNP detn. in blood of human by Triage BNP immunoassay com. **kit**  
for heart failure detection and follow-up)

IT Heart, disease

(failure; BNP detn. in blood of human by Triage BNP immunoassay com.  
**kit** for heart failure detection and follow-up)

IT 114471-18-0, B Type **natriuretic peptide**

RL: ANT (**Analyte**); THU (Therapeutic use); ANST (**Analytical study**); BIOL (Biological study); USES (Uses)

(BNP detn. in blood of human by Triage BNP immunoassay com. **kit**  
for heart failure detection and follow-up)

RE.CNT 19

RE

- (1) Apple, F; Clin Chem 1999, V45, P199 HCAPLUS
- (2) Bettencourt, P; Cardiology 2000, V93, P19 HCAPLUS
- (3) Cheng, V; J Am Coll Cardiol 2000, V35(Suppl A), P171
- (4) Clerico, A; Horm Metab Res 1999, V31, P487 HCAPLUS
- (5) Cowie, M; Eur Heart J 1997, V18, P208 HCAPLUS
- (6) Cowie, M; Heart 2000, V83, P617 MEDLINE
- (7) Cowie, M; Lancet 1997, V350, P1347
- (8) Dao, Q; J Am Coll Cardiol 2000, V35(Suppl A), P171
- (9) Dries, D; Lancet 2000, V355, P1112 MEDLINE
- (10) Gobinet-Georges, A; Clin Chem Lab Med 2000, V38, P519 HCAPLUS
- (11) Koon, J; J Am Coll Cardiol 2000, V35(Suppl A), P164
- (12) McDonagh, T; Lancet 1998, V351(9095), P9 MEDLINE
- (13) Murdoch, D; Am Heart J 1999, V138, P1126 HCAPLUS
- (14) Omland, T; Circulation 1996, V93, P1963 HCAPLUS
- (15) Passing, H; J Clin Chem Clin Biochem 1983, V21, P709 MEDLINE
- (16) Troughton, R; Lancet 2000, V355(9210), P1126 HCAPLUS
- (17) Valli, N; J Lab Clin Med 1999, V134, P437 HCAPLUS
- (18) Vantrimpont, P; Eur Heart J 1998, V19, P1552 MEDLINE
- (19) Yasumoto, K; Am J Hypertens 1999, V12, P921 HCAPLUS

L84 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2001 ACS

AN 2000:707939 HCAPLUS

DN 133:305687

TI **Stability of brain natriuretic****peptide** (BNP) in human whole blood and plasma

AU Gobinet-Georges, Agnes; Valli, Nathalie; Filliatre, Helene; Dubernet, Marie-France; Dedeystere, Olivier; Bordenave, Laurence

CS Service de Medecine Nucleaire, Hopital du Haut-Leveque CHU de Bordeaux, Pessac, Fr.

SO Clin. Chem. Lab. Med. (2000), 38(6), 519-523

CODEN: CCLMFW; ISSN: 1434-6621

PB Walter de Gruyter GmbH &amp; Co. KG

DT Journal

LA English

CC 2-1 (Mammalian Hormones)

AB **Brain natriuretic peptide** is proposed as a biochem. marker which could provide a useful screening test to select patients for further cardiac investigations in heart failure. The applicability of such a biochem. test in clinics, hospital wards, and clin. labs. is dependent on its ease of use and on the complexity of sample handling. The present study was undertaken to evaluate the stability of **brain natriuretic peptide** under a no. of different handling conditions (sample collection, storage temps., freezing temps.) assayed with a com. available **kit**. The results clearly demonstrate that **brain natriuretic peptide** is stable at room temp. for 24 h, or in up to 30.degree. for 12 h in the presence and absence of aprotinin, on the condition that **brain natriuretic peptide** is assayed within one month (frozen at -20.degree.) after blood collection. The presence of aprotinin prevents **brain natriuretic peptide** degrdn. in samples preserved for more than 1 mo at -20.degree. before assay.

ST **brain natriuretic peptide** stability blood

IT Blood

**Blood analysis**

Blood plasma

**Sample preparation**

(**brain natriuretic peptide** stability in human whole blood and plasma samples and handling conditions and aprotinin effect thereon)

IT 114471-18-0, Brain natriuretic factor

RL: ANT (**Analyte**); BPR (**Biological process**); ANST(**Analytical study**); BIOL (**Biological study**); PROC (**Process**)

(brain natriuretic peptide stability in

human whole blood and plasma samples and handling conditions and aprotinin effect thereon)

IT 9087-70-1, Aprotinin

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(**brain natriuretic peptide** stability in human whole blood and plasma samples and handling conditions and aprotinin effect thereon)

RE.CNT 18

RE

- (1) Anon; Ann Biol Clin 1986, V44, P686
- (2) Choy, A; Br Heart J 1994, V72, P16 MEDLINE
- (3) Clerico, A; J Endocrinol Investig 1998, V21(3), P170 HCAPLUS
- (4) Davidson, N; Circulation 1995, V91(4), P1276 MEDLINE
- (5) Grantham, J; Circulation 1997, V96(2), P388 MEDLINE
- (6) Holmes, S; J Clin Endocrinol Metab 1993, V76, P91 HCAPLUS
- (7) Morita, E; J Am Coll Cardiol 1993, V88, P82 MEDLINE
- (8) Motwani, J; Lancet 1993, V341, P1109 MEDLINE
- (9) Mukoyama, M; J Clin Invest 1991, V87, P1402 HCAPLUS
- (10) Murdoch, D; Heart 1997, V78, P594 MEDLINE
- (11) Murdoch, D; Heart 1999, V81, P212 MEDLINE
- (12) Omland, T; Circulation 1996, V93, P1963 HCAPLUS
- (13) Stein, B; Am Heart J 1998, V135, P914 HCAPLUS
- (14) Sudoh, T; Nature 1988, V322, P78
- (15) Tsuji, T; Clin Chem 1994, V40, P672 MEDLINE
- (16) Valli, N; Clin Chim Acta Submitted
- (17) Valli, N; J Lab Clin Med 1999, V134, P437 HCAPLUS
- (18) Wallen, T; J Int Med 1997, V242, P307 HCAPLUS

L84 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2001 ACS

AN 2000:307926 HCAPLUS

DN 133:69110

TI Measurement of **brain natriuretic peptide** in plasma samples and cardiac tissue extracts by means of an **immunoradiometric** assay method

AU Del Ry, S.; Clerico, A.; Giannessi, D.; Andreassi, M. G.; Caprioli, R.; Iascone, M. R.; Ferrazzi, P.; Biagini, A.

CS Laboratory of Cardiovascular Endocrinology and Cell Biology and Department of Cardiovascular Surgery, CNR Institute of Clinical Physiology, Department of Internal Medicine, University of Pisa, Pisa, Italy

SO Scand. J. Clin. Lab. Invest. (2000), 60(2), 81-90

CODEN: SJCLAY; ISSN: 0036-5513

PB Taylor & Francis AS

DT Journal

LA English

CC 2-1 (Mammalian Hormones)

Section cross-reference(s): 14

AB The authors evaluated the anal. characteristics and clin. usefulness of a com. immunoradiometric assay (IRMA) **kit for brain natriuretic peptide** (BNP). Mean ( $\pm$ SD) plasma BNP concns. measured in 129 normal subjects were  $2.9 \pm 2.7$  pmol/l (median  $2.2$  pmol/l; range  $0.1$ - $12.4$  pmol/l). The mean ( $\pm$ SD) value obsd. in healthy men ( $2.1 \pm 2.0$  pmol/l,  $n=49$ ) was significantly ( $p=0.0009$ ) different to that found in women ( $3.4 \pm 2.9$  pmol/l,  $n=80$ ). A pos. relationship ( $R=0.214$ ,  $p=0.0174$ ) was found between BNP values and age. In 65 patients with cardiac diseases, BNP levels increased with the progression of clin. severity of disease; patients with more severe disease [NYHA functional class III-IV, mean ( $\pm$ SD) BNP =  $254 \pm 408$  pmol/l,  $n=22$ ] showed significantly ( $p<0.0001$ ) increased values compared to patients with mild symptoms of disease (NYHA functional class I-II, mean ( $\pm$ SD) BNP =  $19.6 \pm 17.2$  pmol/l,  $n=43$ ). Furthermore, in 32 patients with chronic renal failure, greatly increased ( $p<0.0001$ ) BNP values were found both before (mean  $\pm$ SD =  $88.1 \pm 111.1$  pmol/l) and after hemodialysis (mean  $\pm$ SD =  $65.6 \pm 76.7$  pmol/l), with a significant redn. after hemodialysis ( $p=0.0004$ ) compared to pre-hemodialysis. The mean ( $\pm$ SD) BNP value found in atrial exts. collected during aorto-coronary bypass

operations in 15 patients was  $14.5 \pm .51.9$  pmol/g of cardiac tissue. Moreover, the mean ( $\pm$ .SD) tissue levels of BNP in 7 heart transplant recipients were  $128.4 \pm .117.2$  pmol/g of cardiac tissue in atrium,  $68.4 \pm .76.7$  pmol/g in ventricle, and  $10.9 \pm .8.5$  pmol/g in interventricular septum. Finally, BNP values found in cardiac tissues of two subjects collected at autopsy were considerably lower (on av. 1/1000) than those obsd. in cardiac tissues of patients with cardiac diseases. The IRMA method for BNP detn. evaluated in this study showed a good degree of sensitivity, precision and practicability. Therefore, this method should be a reliable tool for the measurement of plasma BNP levels for both exptl. studies and routine assay.

- ST **brain natriuretic peptide** detn plasma  
immunoradiometric assay; heart kidney disease BNP detn plasma
- IT Kidney, disease  
(failure, chronic; immunoradiometric measurement of **brain natriuretic peptide** in plasma and cardiac tissue exts. of healthy men and women and patients with cardiac and renal disease)
- IT Dialysis  
(hemodialysis; immunoradiometric measurement of **brain natriuretic peptide** in plasma and cardiac tissue exts. of healthy men and women and patients with cardiac and renal disease)
- IT Aging, animal  
**Blood analysis**  
Heart  
Heart, disease  
Sex differences  
(immunoradiometric measurement of **brain natriuretic peptide** in plasma and cardiac tissue exts. of healthy men and women and patients with cardiac and renal disease)
- IT **114471-18-0, Brain natriuretic peptide**  
RL: **ANT (Analyte); ANST (Analytical study)**  
(immunoradiometric measurement of **brain natriuretic peptide** in plasma and cardiac tissue exts. of healthy men and women and patients with cardiac and renal disease)

RE.CNT 39

RE

- (1) Akiba, T; Clin Nephrol 1995, V44(Suppl 1), PS61
- (2) Ationu, A; Br J Biomed Sci 1994, V51, P316 HCAPLUS
- (3) Ationu, A; Cardiovasc Res 1993, V27, P188 HCAPLUS
- (4) Ationu, A; Cardiovasc Res 1993, V27, P2135 MEDLINE
- (5) Bonow, R; Circulation 1996, V93, P1946 HCAPLUS
- (6) Buckley, M; Clin Sci 1992, V83, P437 MEDLINE
- (7) Clerico, A; Eur J Nucl Med 1995, V22, P997 HCAPLUS
- (8) Clerico, A; Horm Metab Res 1999, V31, P487 HCAPLUS
- (9) Clerico, A; J Clin Immunoassay 1991, V14, P251
- (10) Clerico, A; J Clin Ligand Assay 1999, V22, P194
- (11) Clerico, A; J Endocrinol Invest 1995, V18, P194 HCAPLUS
- (12) Clerico, A; J Endocrinol Invest 1998, V21, P170 HCAPLUS
- (13) Clerico, A; J Nucl Med All Sci 1990, V34, P81 MEDLINE
- (14) Corboy, C; Clin Sci 1994, V87, P679
- (15) Cowie, M; Lancet 1997, V350, P1347
- (16) Davidson, N; Am J Cardiol 1996, V77, P828 HCAPLUS
- (17) Espiner, E; Endocrinology. 3rd ed 1995, P2895
- (18) Haug, C; Clin Invest 1994, V72, P430 HCAPLUS
- (19) Iervasi, G; Am J Physiol 1993, V264, PF480 HCAPLUS
- (20) Iervasi, G; Circulation 1995, V91, P2018 MEDLINE
- (21) Ishizaka, Y; Am J Kidney Dis 1994, V24, P461 MEDLINE
- (22) Ishizaka, Y; Clin Nephrol 1995, V43, P237 HCAPLUS
- (23) Jensen, K; Scand J Clin Lab Invest 1997, V57, P529 MEDLINE
- (24) Kono, M; Kaku Igaku 1993, V13, P2 HCAPLUS
- (25) Kuroski de Bold, M; Cardiovasc Res 1999, V41, P524 HCAPLUS
- (26) Lang, C; J Hypertens 1991, V9, P779 HCAPLUS
- (27) Levin, E; N Engl J Med 1998, P321 HCAPLUS
- (28) Motwani, J; Lancet 1993, V341, P1109 MEDLINE

- (29) Mukoyama, M; J Clin Invest 1991, V87, P1402 HCAPLUS  
(30) Mukoyama, M; J Clin Invest 1991, V87, P1402 HCAPLUS  
(31) Murdoch, D; Heart 1997, V78, P594 MEDLINE  
(32) Pilo, A; J Nucl Med All Sci 1982, V26, P235 HCAPLUS  
(33) Sagnella, G; Clin Sci 1998, V95, P519 HCAPLUS  
(34) Sonmez, F; Nephrol Dial Transplant 1996, V11, P1564 MEDLINE  
(35) Stein, B; Am Heart J 1998, V135, P914 HCAPLUS  
(36) Struthers, A; Br Heart J 1993, V70, P397 MEDLINE  
(37) Tharaux, P; Clin Sci 1994, V87, P67  
(38) Togashi, K; FEBS Lett 1989, V250, P235 HCAPLUS  
(39) Yandle, T; J Clin Endocrinol Metab 1993, V76, P832 HCAPLUS

L84 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2001 ACS

AN 1999:464771 HCAPLUS

DN 131:281671

TI Stability of **brain natriuretic peptide** (BNP)  
in human blood samples

AU Shimizu, Hiroyuki; Aono, Kazuyoshi; Masuta, Keiichi; Asada,  
Hidehisa; Misaki, Atsushi; Teraoka, Hiroshi

CS Diagnostic Science Division, Settsu, Ltd., Shionogi & Co.,  
Osaka, Japan

SO Clin. Chim. Acta (1999), 285(1-2), 169-172

CODEN: CCATAR; ISSN: 0009-8981

PB Elsevier Science Ireland Ltd.

DT Journal

LA English

CC 2-1 (Mammalian Hormones)

Section cross-reference(s): 9

AB Stability of immunoreactivity of human **brain natriuretic peptide** (BNP) in blood samples was investigated. After storage of the whole blood samples in the blood collecting tubes made of glass or **polyethylene terephthalate** (PET), residual immunoreactivity of BNP in the plasma was measured by sandwich RIA for human BNP. BNP in the blood samples collected in the PET tubes were kept more stable than that in the glass tubes. The results suggested that com. available PET tubes would enable more accurate BNP values and this would also help to simplify the sample prepn.

ST **brain natriuretic peptide** stability blood

**polyethyleneterephthalate** glass tube

IT Blood plasma

Pipes and Tubes

(**brain natriuretic peptide** stability in  
human blood samples stored in different tubes)

IT Glass, biological studies

Polyesters, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(**brain natriuretic peptide** stability in  
human blood samples stored in different tubes)

IT 114471-18-0, **Brain natriuretic peptide**

RL: BPR (Biological process); BIOL (Biological study); PROC  
(Process)

(**brain natriuretic peptide** stability in  
human blood samples stored in different tubes)

IT 25038-59-9, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(**brain natriuretic peptide** stability in  
human blood samples stored in different tubes)

RE.CNT 9

RE

- (1) Davidson, N; Circulation 1995, V91, P1276 MEDLINE  
(2) Kono, M; Jpn Soc Nuc Med Tech 1993, V13, P2 HCAPLUS  
(3) Masuta, K; Jpn Soc Nuc Med Tech 1998, V18, P9  
(4) McDonagh, T; Lancet 1998, V351, P9 MEDLINE  
(5) Mukoyama, M; Lancet 1990, V335, P801 MEDLINE



- (6) Murdoch, D; Heart 1997, V78, P594 MEDLINE  
 (7) Omland, T; Circulation 1996, V93, P1963 HCAPLUS  
 (8) Tsuji, T; Clin Chem 1994, V40, P672 MEDLINE  
 (9) Tsutamoto, T; Circulation 1997, V96, P509 MEDLINE

L84 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2001 ACS

AN 1999:194337 HCAPLUS

DN 130:232845

TI **Immunoassay method for brain natriuretic peptide (BNP)**

IN **Asada, Hidehisa; Shimizu, Hiroyuki; Endou, Kazuaki**

PA **Shionogi & Co., Ltd., Japan**

SO PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM G01N033-53

CC 2-1 (Mammalian Hormones)

Section cross-reference(s): 9, 15

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9913331	A1	19990318	WO 1998-JP4063	19980910
	W:				
	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,				
	DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG,				
	KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO,				
	NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA,				
	UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,				
	FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,				
	CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9890010	A1	19990329	AU 1998-90010	19980910
	AU 731858	B2	20010405		
	EP 1016867	A1	20000705	EP 1998-941797	19980910
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				
	IE, FI				
	NO 2000001273	A	20000510	NO 2000-1273	20000310
PRAI	JP 1997-246684	A	19970911		
	WO 1998-JP4063	W	19980910		
AB	An immunoassay method specific for mammalian .gamma.-BNP derivs. which comprises using a first antibody reacting with mammalian .alpha.-BNP and a second antibody reacting with prepro-BNP or .gamma.-BNP derivs. but not with .alpha.-BNP and wherein at least one of these antibodies has been detectably labeled or supported on a solid phase. The immunoassay kit is useful for diagnosis of BNP-assocd. heart diseases.				
ST	monoclonal antibody gamma BNP heart disease				
IT	Chemiluminescent substances				
	Fluorescent substances				
	Heart diseases				
	<b>Immunoassay</b>				
	Labels				
	Mammal (Mammalia)				
	Particles				
	Plasma (blood)				
	<b>Test kits</b>				
	(immunoassay with .alpha.-brain natriuretic peptide-specific antibody and prepro-BNP/.gamma.-BNP-specific antibody for BNP detn. and cardiac diseases diagnosis)				
IT	Enzymes, biological studies				
	Radionuclides				
	RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)				
	(immunoassay with .alpha.-brain natriuretic peptide-specific antibody and prepro-BNP/.gamma.-BNP-specific antibody for BNP detn. and cardiac diseases diagnosis)				
IT	Antibodies				

## Monoclonal antibodies

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(immunoassay with .alpha.-**brain natriuretic**

**peptide**-specific antibody and prepro-BNP/.gamma.

-BNP-specific antibody for BNP detn. and cardiac diseases diagnosis)

## IT Immunoradiometric assay

(sandwich; immunoassay with .alpha.-**brain natriuretic**

**peptide**-specific antibody and prepro-BNP/.gamma.

-BNP-specific antibody for BNP detn. and cardiac diseases diagnosis)

## IT 121128-24-3, .gamma. Brain natriuretic

**peptide**

RL: ANT (Analyte); BSU (Biological study, unclassified); PRP

(Properties); THU (Therapeutic use); ANST (Analytical study);

BIOL (Biological study); USES (Uses)

(immunoassay with .alpha.-**brain natriuretic**

**peptide**-specific antibody and prepro-BNP/.gamma.

-BNP-specific antibody for BNP detn. and cardiac diseases diagnosis)

## IT 114471-18-0, Brain natriuretic peptide

122007-25-4, Brain natriuretic peptide,

prepro-

RL: ANT (Analyte); BSU (Biological study, unclassified); THU

(Therapeutic use); ANST (Analytical study); BIOL (Biological

study); USES (Uses)

(immunoassay with .alpha.-**brain natriuretic**

**peptide**-specific antibody and prepro-BNP/.gamma.

-BNP-specific antibody for BNP detn. and cardiac diseases diagnosis)

## IT 124586-56-7 221266-50-8

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(immunoassay with .alpha.-**brain natriuretic**

**peptide**-specific antibody and prepro-BNP/.gamma.

-BNP-specific antibody for BNP detn. and cardiac diseases diagnosis)

RE.CNT 4

RE

(1) Anon; FEBS LETTERS 1997, V400(2), P177

(2) Medinnova Sf; WO 9324531 A HCAPLUS

(3) Medinnova Sf; JP 07507210 A 1995

(4) Shionogi & Co Ltd; JP 03297392 A 1991 HCAPLUS

L84 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2001 ACS

AN 1999:50710 HCAPLUS

DN 130:232596

TI Assessment of BNP **stability** in clinical samples: study on material of blood drawing tube

AU Masuta, Keiichi; Aono, Kazuyoshi; Shimizu, Hiroyuki; Misaki,

Atsushi; Asada, Hidehisa; Teraoka, Hiroshi; Akioka, Hisashi

CS Diagnostic Science Division, Shionogi & Co., Ltd., Japan

SO Kaku Igaku Gijutsu (1998), 18(4), 299-302

CODEN: KIGIEM; ISSN: 0289-100X

PB Nippon Kaku Igaku Gijutsu Gakkai

DT Journal

LA Japanese

CC 2-1 (Mammalian Hormones)

AB The loss of serum activity of **brain natriuretic**

**peptide** (BNP) was markedly decreased by collecting the samples

with PET sampling tubes, cold storage (4.degree.C), and the

addn. of aprotinin.

ST **brain natriuretic peptide** blood sampling

preservation aprotinin; PET sampling tube blood **brain**

**natriuretic peptide**; cold preservation blood

**brain natriuretic peptide**

IT Blood preservation

Cold effects (biological)

(effects of aprotinin, cold storage, and glass and PET blood

drawing tubes on **brain natriuretic peptide**

**stability** in serum samples)

IT Pipes and Tubes

- (sampling; effects of aprotinin, cold storage, and glass and PET blood drawing tubes on **brain natriuretic peptide** stability in serum samples)
- IT Sampling apparatus  
(tubes; effects of aprotinin, cold storage, and glass and PET blood drawing tubes on **brain natriuretic peptide** stability in serum samples)
- IT 114471-18-0, **Brain natriuretic peptide**  
RL: ANT (**Analyte**); BOC (Biological occurrence); ANST (**Analytical study**); BIOL (Biological study); OCCU (Occurrence)  
(effects of aprotinin, cold storage, and glass and PET blood drawing tubes on **brain natriuretic peptide** stability in serum samples)
- IT 9087-70-1, Aprotinin  
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(effects of aprotinin, cold storage, and glass and PET blood drawing tubes on **brain natriuretic peptide** stability in serum samples)
- IT 25610-19-9, **Polyethylene** phthalate  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(effects of aprotinin, cold storage, and glass and PET blood drawing tubes on **brain natriuretic peptide** stability in serum samples)

- L84 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2001 ACS  
AN 1998:660801 HCAPLUS  
DN 130:92384  
TI Development of **radioimmunoassay kit** for atrial natriuretic factor in plasma  
AU Su, Jingxian; Hou, Hui ren  
CS Department of Isotope, China Institute of Atomic Energy, Beijing, 102413, Peop. Rep. China  
SO Tongweisu (1997), 10(3), 140-144  
CODEN: TONGEM; ISSN: 1000-7512  
PB Yuanzineng Chubanshe  
DT Journal  
LA Chinese  
CC 9-10 (Biochemical Methods)  
AB A specific RIA **kit** for atrial natriuretic factor (ANF) was developed and applied to the measurement of human plasma. ANF was iodinated according to the method of Ch-T and purified by Sephadex G50. The specific activity of <sup>125</sup>I-ANF was more than 10 MBq/.mu.g, the radiochem. purity was more than 90% and the excessive antibody binding was (78-81)%. The **kit** had a set of stable lyophilization stds. The range of detection was from 65 pmol/L to 3250 pmol/L. The assay method is simple and quick with the following characteristics: the av. recovery in human plasma is (93.4- 115)%, the intra and inter coeff. of variation is (3.2-4.5)% and (3.1-6.2)%, resp., the nonspecific binding is (1.9- 4.4)%, the detection limit is 17 pmol/L and the correlation coeff. of high value plasma diln. is 0.9992-0.9998. The content of ANF in 97 healthy adults is 122.0.+-.24.8 pmol/L.
- ST RIA **kit** heart natriuretic factor plasma  
IT **Blood analysis**  
RIA (**radioimmunoassay**)  
Test kits  
(development of RIA **kit** for atrial natriuretic factor in plasma)
- IT 85637-73-6, Atrial natriuretic factor  
RL: ANT (**Analyte**); ANST (**Analytical study**)  
(development of RIA **kit** for atrial natriuretic factor in plasma)

- L84 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2001 ACS  
AN 1998:26817 HCAPLUS

DN 128:136574  
TI Analytical agreement and clinical correlates of plasma **brain natriuretic peptide** measured by three immunoassays in patients with heart failure  
AU Bevilacqua, Maurizio; Vago, Tarcisio; Baldi, Gabriella; Norbiato, Guido; Masson, Serge; Latini, Roberto  
CS Endocrine Unit, Ospedale "Luigi Sacco", Milan, 20157, Italy  
SO Clin. Chem. (Washington, D. C.) (1997), 43(12), 2439-2440  
CODEN: CLCHAU; ISSN: 0009-9147  
PB American Association for Clinical Chemistry  
DT Journal  
LA English  
CC 2-1 (Mammalian Hormones)  
Section cross-reference(s): 14  
AB A polemic. The authors compared 3 immunoassays kits (a non-extn. RIA, a non-extn. IRMA and an extn. RIA) for detn. of human plasma BNP and correlated them to cardiac function in healthy volunteers and congestive heart failure (CHF) patients. The 3 immunoassays evaluated showed similar correlations with left ventricular function in patients with CHF, but the results of the 2 non-extn. methods differed from the results of the extn. method.  
ST BNP detn plasma immunoassay heart failure; congestive heart failure  
IT **Brain natriuretic peptide**  
~~Heart failure~~  
~~Immunoassay~~  
(anal. agreement and clin. correlates of plasma **brain natriuretic peptide** measured by three immunoassays in patients with heart failure)  
IT 114471-18-0, **Brain natriuretic peptide**  
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(anal. agreement and clin. correlates of plasma **brain natriuretic peptide** measured by three immunoassays in patients with heart failure)  
  
L84 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2001 ACS  
AN 1996:454499 HCAPLUS  
DN 125:133011  
TI Comparison of N-terminal pro-atrial **natriuretic peptide** and **atrial natriuretic peptide** in human plasma as measured with commercially available **radioimmunoassay kits**  
AU Boomsma, Frans; Bhaggoe, Usha M.; Man in't Veld, Arie J.; Schalekamp, Maarten A. D. H.  
CS Div. Internal Med. I., Cardiovascular Res. Inst. COEUR, Univ. Hosp. Dijkzigt/Erasmus Univ., Rotterdam, 3015 GD, Neth.  
SO Clin. Chim. Acta (1996), 252(1), 41-49  
CODEN: CCATAR; ISSN: 0009-8981  
DT Journal  
LA English  
CC 2-1 (Mammalian Hormones)  
Section cross-reference(s): 14  
AB **Atrial natriuretic peptide** (ANP) has become an important parameter for assessing the condition of patients with cardiac disease. Recently, attention has also focused on N-terminal pro-**atrial natriuretic peptide** (NtproANP) in this context. Ntpro-ANP circulates in plasma in higher concn., in more stable ex vivo, and may be a better parameter for cardiac function over time. We have evaluated a new com. available RIA kit for NtproANP and compared results and method with those of ANP measurements. The NtproANP kit was found to be reliable and easy to use (no plasma extn. step is necessary), with good reproducibility (coeffs. of variation 7-15%). Normal values in 15 healthy lab. workers, 25 healthy elderly subjects and 25 patients with heart failure were 207, 368 and 1206 pM, resp., 8.3, 11.8 and 13.0 times higher, resp., than corresponding ANP concns. NtproANP

correlated well with ANP. We conclude that plasma NtproANP measurement may be a good alternative to plasma ANP measurement: tech., it is easier to perform, the NtproANP is more stable in plasma. Whether NtproANP is a better diagnostic and prognostic parameter than ANP remains to be further established.

- ST atriopeptin proatriopeptin blood RIA; heart failure atriopeptin proatriopeptin blood
- IT **Blood analysis**  
(comparison of N-terminal pro-atriopeptin and atriopeptin in human plasma as measured with com. available RIA kits)
- IT Senescence  
(elderly, comparison of N-terminal pro-atriopeptin and atriopeptin in human plasma as measured with com. available RIA kits)
- IT Heart, disease  
(failure, comparison of N-terminal pro-atriopeptin and atriopeptin in human plasma as measured with com. available RIA kits)
- IT **Immunoassay**  
(radioimmunoassay, comparison of N-terminal pro-atriopeptin and atriopeptin in human plasma as measured with com. available RIA kits)
- IT **85637-73-6, Atrial natriuretic peptide**  
**92046-98-5, Proatriopeptin**  
RL: **ANT (Analyte)**; THU (Therapeutic use); **ANST (Analytical study)**; BIOL (Biological study); USES (Uses)  
~~(comparison of N-terminal pro-atriopeptin and atriopeptin in human plasma as measured with com. available RIA kits)~~
- 
- L84 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2001 ACS
- AN 1994:677880 HCAPLUS
- DN 121:277880
- TI Plasma human **brain natriuretic peptide** (BNP) levels in various diseases using BNP RIA kit 'Eiken'
- AU Hirata, Yukio; Nishimori, Takeo; Mitaka, Chieko; Imai, Taihei; Tsujino, Motoyoshi; Ohta, Kazuki; Fujiwara, Hideomi
- CS 2nd Dep. Intern. Med., Tokyo Med. Dent. Univ., Tokyo, 113, Japan
- SO Horumon to Rinsho (1994), 42(9), 895-9  
CODEN: HORIAE; ISSN: 0045-7167
- DT Journal
- LA Japanese
- CC 14-5 (Mammalian Pathological Biochemistry)  
Section cross-reference(s): 2
- AB RIA assay kit for BNP (Eiken) detected plasma BNP in 4 out of 50 healthy subjects, and residual subjects were under the detection limit of 8.1 pg/mL. The RIA results well corresponded to the results by direct extn. method. Plasma BNP level increased markedly in patients of chronic renal failure, congestive heart failure (CHF), acute myocardial infarction (AMI), and acute respiratory failure (ARF). BNP and .alpha.-**atrial natriuretic peptide** (ANP) levels decreased upon hemodialysis from 375.7 +/- 137.9 pg/mL to 323.8 +/- 122.3 pg/mL, and 62.4 +/- 16 pg/mL to 41.1 +/- 9.6 pg/mL, resp. Plasma BNP and ANP levels in CHF were correlated with the severity of the disease. There was no correlation between BNP and ANP. BNP levels in AMI were 158.8 +/- 26 pg/mL and 191.5 +/- 38 pg/mL on day 1 and day 2 after onset of the disease, and ANP levels were 100.8 +/- 8.1 pg/mL and 85.5 +/- 8.5 pg/mL, resp. BNP level increased in ARF as 302 +/- 103 pg/mL, and BNP level and total blood flow resistance were parallel.
- ST brain **atrial natriuretic peptide** blood  
disease; kidney heart failure **natriuretic peptide** blood; respiration failure **brain natriuretic peptide** blood
- IT Blood plasma  
(plasma **brain natriuretic peptide** and .alpha.-**atrial natriuretic peptide** levels in various diseases in humans)
- IT Animal breathing  
(disorder, failure, plasma **brain natriuretic**

- peptide and .alpha.-atrial natriuretic peptide levels in various diseases in humans)**
- IT Heart, disease  
(failure, plasma **brain natriuretic peptide** and **.alpha.-atrial natriuretic peptide** levels in various diseases in humans)
- IT Kidney, disease  
(failure, chronic, plasma **brain natriuretic peptide** and **.alpha.-atrial natriuretic peptide** levels in various diseases in humans)
- IT Heart, disease  
(infarction, plasma **brain natriuretic peptide** and **.alpha.-atrial natriuretic peptide** levels in various diseases in humans)
- IT 92046-97-4, **.alpha.-Atrial natriuretic peptide**  
RL: ANT (Analyte); BOC (Biological occurrence); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)  
(plasma **brain natriuretic peptide** and **.alpha.-atrial natriuretic peptide** levels in various diseases in humans)
- IT 114471-18-0, **Brain natriuretic peptide**  
RL: ANT (Analyte); BOC (Biological occurrence); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); USES (Uses)  
(plasma **brain natriuretic peptide** and **.alpha.-atrial natriuretic peptide** levels in various diseases in humans)
- 
- L84 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2001 ACS  
AN 1992:15897 HCAPLUS  
DN 116:15897  
TI Evaluation of the analytical performances of some **RIA kits for atrial natriuretic peptides** (ANP): an interlaboratory study  
AU Piffanelli, A.; Clerico, A.; Opocher, G.; Pelizzola, D.; Panzali, A.; Andreone, P.; Giganti, M.; Del Chicca, M.; Cittanti, C.; Colamussi, P.  
CS Univ. Ferrara, Ferrara, Italy  
SO Nuklearmedizin, Suppl. (Stuttgart) (1991), 27, 75-7  
CODEN: NMBSAG; ISSN: 0550-3175  
DT Journal  
LA English  
CC 2-1 (Mammalian Hormones)  
AB The RIA methods evaluated in this study showed a degree of sensitivity and precision which does not permit the measurement of atrial natriuretic concns. in normal plasma samples with an acceptable precision.  
ST **atrial natriuretic peptide** RIA performance; atriopeptin detn plasma RIA kit  
IT **Blood analysis**  
(atriopeptin detn. in, by RIA kit, evaluation of)  
IT **Immunoassay**  
(radioimmunoassay, atriopeptin detn. by, in blood plasma, evaluation of kits for)  
IT 85637-73-6, **Atrial natriuretic peptide**  
RL: ANT (Analyte); ANST (Analytical study)  
(detn. of, in blood plasma, by RIA kit, evaluation of)
- L84 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2001 ACS  
AN 1991:467644 HCAPLUS  
DN 115:67644  
TI Nuclear imaging uses of radiolabeled atrial natriuretic factor (ANF), and compositions and **kits**  
IN Hamet, Pavel; Tremblay, Johanne; Lambert, Raymond; Leveille, Jean  
PA Institut de Recherches Cliniques de Montreal, Can.; Hotel Dieu de Montreal  
SO PCT Int. Appl., 39 pp.  
CODEN: PIXXD2  
DT Patent

LA English  
 IC ICM A61K049-02  
 CC 8-9 (Radiation Biochemistry)  
 Section cross-reference(s): 2, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9014845	A1	19901213	WO 1990-CA192	19900608
	W: AU, BB, BG, BR, CA, FI, HU, JP, KP, KR, LK, MC, MG, MW, NO, RO, SD, SU, US				
	RW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, DK, ES, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG				
	CA 2033995	AA	19901210	CA 1990-2033995	19900608
	AU 9058292	A1	19910107	AU 1990-58292	19900608
	US 5326551	A	19940705	US 1991-634220	19910205
PRAI	US 1989-363709		19890609		
	WO 1990-CA192		19900608		
AB	A nuclear imaging method for quantifying uptake, binding, and/or displacement of ANF in a target organ of a mammal comprises administering a diagnostically effective amt. of a radiolabeled mammalian ANF, active fragment, or analog to a mammal, and imaging the mammal. Such imaging is useful in the diagnosis and monitoring of certain diseases. Compns. and kits are also described. Normal and diabetic (insulin-dependent) patients were injected with i.v. boluses of 123I-ANF and images were made with a gamma-camera linked to a computer. Conditions of hyperfiltration as well as of decreased renal function had distinct effects on the kinetic parameters of renal imaging.				
ST	nuclear imaging radiolabeled atrial natriuretic factor; diabetes imaging radiolabeled atrial natriuretic factor				
IT	Hypertension (detn. of, in lab. animal, by imaging with radiolabeled atrial natriuretic factor)				
IT	Bladder Kidney Liver Lung Spleen Thyroid gland (imaging of, radiolabeled atrial natriuretic factor for)				
IT	Pharmaceutical dosage forms (of radiolabeled atrial natriuretic factor, for imaging)				
IT	Diagnosis (radiolabeled atrial natriuretic factor for imaging for)				
IT	Receptors RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study) (radiolabeled atrial natriuretic factor response to, imaging of, for disease diagnosis and monitoring)				
IT	Biological transport (absorption, abnormal, of atrial natriuretic factor in target organism, diagnosis of, radiolabeled factor for imaging in)				
IT	Kidney, disease or disorder (diabetic, organ imaging with radiolabeled atrial natriuretic factor in relation to)				
IT	Imaging (gamma-ray, computerized, with radiolabeled atrial natriuretic factor)				
IT	Kidney, disease or disorder (hyperfiltration, in diabetic patients, imaging of, with radiolabeled atrial natriuretic factor)				
IT	Diabetes mellitus (insulin-dependent, organ imaging with radiolabeled atrial natriuretic factor in relation to)				
IT	Imaging (nuclear, of target organs, radiolabeled atrial natriuretic factor for)				
IT	85637-73-6, Atrial natriuretic factor RL: BPR (Biological process); BIOL (Biological study); PROC				

**(Process)**

(binding and uptake of, in target organ, detn. of, radiolabeled factor for nuclear imaging in)

- IT 10043-66-0D, Iodine-131, atrial natriuretic factor conjugates  
10098-91-6D, atrial natriuretic factor conjugates 14119-09-6D,  
Gallium-67, atrial natriuretic factor conjugates 14158-31-7D, atrial  
natriuretic factor conjugates 14378-26-8D, Rhenium-188, atrial  
natriuretic factor conjugates 14998-63-1D, Rhenium-186, atrial  
natriuretic factor conjugates 15715-08-9D, Iodine-123, atrial  
natriuretic factor conjugates 15750-15-9D, Indium-111, atrial  
natriuretic factor conjugates 15755-39-2D, Astatine-211, atrial  
natriuretic factor conjugates 15757-14-9D, Gallium-68, atrial  
natriuretic factor conjugates **85637-73-6D**, Atriopeptin,  
radiolabeled  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(for nuclear imaging of target organs)
- IT 14133-76-7D, atrial natriuretic factor conjugates 14885-78-0D, atrial  
natriuretic factor conjugates  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(metastable, for nuclear imaging of target organs)

L84 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2001 ACS

AN 1989:490561 HCAPLUS

DN 111:90561

TI Improved **radioimmunoassay of atrial  
natriuretic peptide** in plasma

AU Polesi, Caludio; Rodella, Anna; Mantero, Giovanni; Cannella, Gluseppe;  
Ferrari, Roberto; Albertini, Alberto

CS Sch. Med., Univ. Brescia, Brescia, Italy

SO Clin. Chem. (Winston-Salem, N. C.) (1989), 35(7), 1431-4

CODEN: CLCHAU; ISSN: 0009-9147

DT Journal

LA English

CC 2-1 (Mammalian Hormones)

AB A RIA for measurement of **atrial natriuretic**

**peptide** (ANP), based on 1-step incubation and a simplified extn.  
procedure, is described. The extn. was performed on a Supelclean LC 18  
column, with 2-mL plasma samples. Use of a diiodinated tracer improved  
the sensitivity of the RIA method. The minimal detectable value was 5  
ng/L. Simplification of the extn. procedure and simultaneous incubation  
of the reagents provide a method more suitable for routine std. assay of  
ANP than those currently available. Intra- and interassay relative std.  
deviation were 6% and 11%, resp. The mean concn. of ANP in plasma of 32  
healthy volunteers was 33 ng/L. The ANP values for plasma after 1-step  
incubation correlated well with those detd. by a com. RIA kit.

ST plasma atriopeptin detn; RIA atriopeptin

IT **Blood analysis**

(atriopeptin detn. in, by RIA)

IT **85637-73-6, Atrial natriuretic peptide**

RL: ANT (Analyte); ANST (Analytical study)

(detn. of, in blood plasma by RIA)

L84 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2001 ACS

AN 1988:542709 HCAPLUS

DN 109:142709

TI **Direct measurement** of .alpha.-human atrial natriuretic  
polypeptide in plasma by sensitive enzyme immunoassay

AU Hashida, Seiichi; Ishikawa, Eiji; Mukoyama, Masashi; Nakao, Kazuwa; Imura,  
Hiroo

CS Dep. Biochem., Med. Coll. Miyazaki, Kiyotake, Miyazaki, 889-16, Japan

SO J. Clin. Lab. Anal. (1988), 2(3), 161-7

CODEN: JCANEM; ISSN: 0887-8013

DT Journal

LA English

CC 2-1 (Mammalian Hormones)

AB .alpha.-Human atrial natriuretic polypeptide (.alpha.-hANP) in plasma was



directly measured without extn. by a sensitive sandwich enzyme immunoassay. **Polystyrene** balls were coated with monoclonal anti-.alpha.-hANP (ring) IgG1 specific for the N-terminal half of the ring structure including the 12-methionine residue of .alpha.-hANP or with monoclonal anti-.alpha.-hANP (N-terminus) IgG1 specific for the N-terminus of .alpha.-hANP. Rabbit anti-.alpha.-hANP (C-terminus) Fab' specific for the C-terminus of .alpha.-hANP was conjugated to horseradish peroxidase. The **polystyrene** ball was incubated with .alpha.-hANP stds. or plasma and, after washing, with the conjugate, and bound peroxidase activity was assayed by fluorimetry (2-step sandwich enzyme immunoassay). The detection limit of .alpha.-hANP was 30-90 fg (10-30 amol)/tube and 0.6-2.3 ng (0.2-0.75 pmol)/L using 0.04-0.05 mL of plasma. The lower detection limit was obtained using monoclonal anti-.alpha.-hANP (ring) IgG1. Plasma hANP levels, as detd. by this method, of healthy men in a supine position after an overnight fast were 24.5 ng/L and tended to decrease after i.v. administration of furosemide and subsequent 1 h walking. This sandwich enzyme immunoassay could be modified further to improve the detection limit of plasma .alpha.-hANP (0.2 ng/L) or to perform a less time-consuming 1-step sandwich enzyme immunoassay without much loss of the sensitivity.

ST atriopeptin detn plasma enzyme immunoassay; atrial natriuretic polypeptide detn immunoassay

IT **Blood analysis**

(atrial natriuretic peptide detn. in, of human by enzyme immunoassay)

IT **85637-73-6, Atrial natriuretic peptide**

RL: ANT (Analyte); ANST (Analytical study)

(detn. of, in blood plasma of human by enzyme immunoassay)

L84 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2001 ACS

AN 1988:217002 HCAPLUS

DN 108:217002

TI **Quantitative determination of atrial**

**natriuretic peptide** with EIA for clinical diagnosis

IN Fujita, Seiichi; Tsuji, Satoru; Katayama, Yoshiaki; Ito, Keiichi

PA Toyobo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G01N033-53

ICS C12Q001-00

CC 2-1 (Mammalian Hormones)

Section cross-reference(s): 9

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62211555	A2	19870917	JP 1986-54352	19860312

AB **Atrial natriuretic peptide** (ANP) detn. uses enzyme-labeled ANP and antibodies to ANP. A sample in a test tube was incubated with anti-human ANP (hANP) antibody and .beta.-galactosidase-labeled hANP at 4.degree. for 2 days, and to this was added a goat anti-rabbit IgG antibody-sensitized **polystyrene** ball. After standing at 4.degree. for 2 addnl. days, the ball was washed and analyzed for the enzyme activity for ANP detn.

ST **atrial natriuretic peptide EIA**

IT Antibodies

RL: BIOL (Biological study)

(to **atrial natriuretic peptide**, for solid-phase EIA)

IT **Immunochemical analysis**

(enzyme immunoassay, solid-phase, **atrial natriuretic peptide** detn. by)

IT **85637-73-6, Atrial natriuretic peptide**

RL: ANT (Analyte); ANST (Analytical study)

(detn. of, by solid-phase EIA)

L84 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2001 ACS  
AN 1988:161531 HCAPLUS  
DN 108:161531  
TI Purification of radioiodinated peptides with PRP-1 **polystyrene**  
**cartridges** and HPLC: application to atrial natriuretic factor and  
vasopressin  
AU Ong, H.; Meloche, S.; De Lean, A.; Larose, P.  
CS Fac. Pharm., Univ. Montreal, Montreal, PQ, Can.  
SO J. Liq. Chromatogr. (1987), 10(14), 3085-100  
CODEN: JLCHD8; ISSN: 0148-3919  
DT Journal  
LA English  
CC 2-1 (Mammalian Hormones)  
AB A simple and rapid cleanup procedure is described for the purifn. of  
iodinated peptides using PRP-1 **polystyrene** cartridges following  
the radioiodination process. The method is validated using different  
vols. and solvent systems and compared to the std. Sep-Pak C18 procedure.  
In this study, the method is used to prep. 125I-labeled atrial natriuretic  
factor and arginine-vasopressin which are further purified by reverse  
phase HPLC giving maximally obtainable specific activity required for the  
radioimmunoassays of these peptides.  
ST iodinated peptide purifn chromatog; vasopressin iodinated purifn  
chromatog; atriopeptin iodinated purifn chromatog; **atrial**  
**natriuretic peptide** iodinated purifn chromatog  
IT Peptides, analysis  
RL: ANST (Analytical study)  
(iodinated derivs., sepn. of, with **polystyrene** cartridges and  
HPLC)  
IT **Chromatography, column and liquid**  
(iodinated peptide sepn. by, with **polystyrene**)  
IT Isotope indicators  
(iodine-125 as, in peptides, sepn. in relation to)  
IT **9003-53-6, Polystyrene**  
RL: BIOL (Biological study)  
(iodinated peptide sepn. by column chromatog. with)  
IT 113-79-1, AVP 88898-17-3, Rat [Ser99-Tyr126]  
RL: RCT (Reactant)  
(iodination of)  
IT 113630-23-2 113661-90-8 113661-91-9 113661-92-0 113661-93-1  
113676-60-1 113676-61-2 113814-57-6  
RL: PROC (Process)  
(sepn. of, with **polystyrene** cartridges and HPLC)

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L129 ANSWER 1 OF 3 WPIX COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 2001-389951 [41] WPIX

DNC C2001-118827

TI Bioreactor for systemic delivery of bioactive agents, comprises nucleic acids encoding growth stimulating and bioactive agents, and a biocompatible substance capable of cellular infiltration.

DC A14 A17 A28 A89 B04 B07 D16 D22

IN CHANDLER, L A; PIERCE, G

PA (SELE-N) SELECTIVE GENETICS INC

CYC 94

PI WO 2001040272 A2 20010607 (200141)\* EN 69p C07K014-00

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ  
NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM  
DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC  
LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE  
SG SI SK SL TJ TM TR TT TZ UA UG US VZ VN YU ZA ZW

ADT WO 2001040272 A2 WO 2000-US32754 20001130

PRAI US 1999-168470 19991201

IC ICM C07K014-00

AB WO 200140272 A UPAB: 20010724

NOVELTY - An in situ bioreactor (I) adapted for systemic delivery of bioactive agents, comprising a nucleic acid encoding a growth stimulating agent, a nucleic acid encoding a bioactive agent, and a biocompatible substance capable of cellular infiltration, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) systemic delivery of a protein from a tissue site in an animal, comprising contacting the tissue site with (I);

(2) a Bi-gene device comprising a biocompatible substance capable of cellular infiltration, a nucleic acid encoding a cell growth stimulating agent, and a second nucleic acid encoding a bioactive agent;

(3) a kit for the production of a device comprising:

(a) a container;

(b) a biocompatible substance;

(c) a nucleic acid encoding a cell growth stimulating agent; and

(d) a second nucleic acid encoding a bioactive agent; and

(4) a kit for the production of a coated device comprising:

(a) a device coated with a biocompatible substance;

(b) a nucleic acid encoding a growth stimulating agent; and

(c) a second nucleic acid encoding a bioactive agent.

ACTIVITY - Vulnery; hemostatic; antianemic; antidiabetic; antiarthritic; coagulant; antiinflammatory; immunosuppressive; neuroprotective; cytostatic; antirheumatic; osteopathic; anti-infertility; contraception.

MECHANISM OF ACTION - Bioactive agent deliverer; protein and gene therapy.

USE - (I) is used for cellular ingrowth and systemic delivery of a bioactive agent, such as a protein from a tissue site in an animal (claimed). (I) is used as an implant. (I) can be used to treat conditions associated with renal dialysis, hemophilia, hemoglobinopathies, thalassemias, anemia, lipid storage disease, mucopolysaccharidoses, diabetes, hypercoagulability, arthritis, hypercoagulability, stroke, cerebroprotective, inflammation, infection, autoimmunity, multiple sclerosis, thrombocytopenia, cancer, osteoporosis, infertility, and birth control.

ADVANTAGE - (I) allows sustained and controlled gene delivery as well as sustained product expression using in vivo transfer and expression of desired nucleic acids.

Dwg.0/3

FS CPI

FA AB; DCN

MC CPI: A12-S05A; A12-S05X; A12-V01; A12-V02; B04-C02; B04-C03; B04-E02B; B04-E03B; B04-E03C; B04-E03D; B04-E03E; B04-E04; B04-E06; B04-E07; B04-E08; B04-F02; B04-F04; B04-F1100E; B04-H01; B04-H19; B04-N02;

B04-N04; B11-C; B11-C04; B11-C04A; B11-C04B; B11-C06; B14-A02A5;  
 B14-C09; B14-C09B; B14-F03; B14-F04; B14-F08; B14-G03; B14-H01;  
 B14-N10; B14-N12; B14-N16; B14-N17B; B14-S01; B14-S03; B14-S04;  
 D05-H; D05-H10; D05-H18; D05-H19; D09-C01

UPTX: 20010724

TECH

TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred Bioreactor: The biocompatible substance is associated with an implantable device, which is a stent, catheter, fiber, hollow fiber, patch or suture.

TECHNOLOGY FOCUS - CERAMICS AND GLASS - Preferred Bioreactor: The biocompatible substance may be bioglass or a bioceramic material.

TECHNOLOGY FOCUS - POLYMERS - Preferred Bioreactor: The biocompatible substance is a synthetic matrix and comprises a polymer that is a polyester, polyether, polyanhydride, polyalkylcyanoacrylate, polyacrylamide, polyorthoester, polyphosphazene, polyvinylacetate, block copolymer, **polypropylene**, polytetrafluororthylene (PTFE) or polyurethane. The polymer comprises lactic or glycolic acid. The polymer is a copolymer of the two acids (PLGA). The biocompatible substance is **degradable** or **non-degradable**. The non-

**degradable** substance comprises a polymer that is **polydimethylsiloxane** or **polyethylene-vinyl acetate**. The biocompatible substance may be a hyaluronic acid polymer or an acrylic ester polymer. (I) is associated with an implantable device containing expanded PTFE (ePTFE) or Dacron.

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Bioreactor: The cell growth stimulating agent is a transcription factor, a chemotactic factor, an angiogenic factor, an antisense molecule, a ribozyme, an anti-apoptotic molecule, a growth factor, a cytokine, an extracellular matrix molecule, a cell adhesion protein, a cell retention agent or a cell surface receptor. One nucleic acid encodes a growth factor or a cytokine. The growth factor is transforming growth factor (TGF), fibroblast growth factor (FGF), platelet derived growth factor (PDGF), insulin like growth factor (IGF), vascular endothelial growth factor (VEGF), hepatocyte growth factor (HGF), epidermal growth factor (EGF), colony stimulating factor (CSF), angiopoietin, interleukin, or bone morphogenic factor (BMP) family members. It is a PDGF family member, preferably PDGF-B, HGF, a FGF family member, preferably FGF-2, mutated FGF-2 or FGF6, one of the TGF family members, preferably TGF-beta1, TGF-beta2, or TGF-beta3. The growth stimulating agent is an antisense molecule, a ribozyme molecule or an apoptotic agent, preferably Bcl-2, Bcl-xL, or A20. The tissue growth stimulating factor is a transcription factor, which is an activator or a repressor. The transcription factor is necrosis factor (NF)-kappaB, E2F, DPl, Ap-1, Ap-2, myc, p53, Spl, NFAT, CBP, C/EBP, or nuclear hormone receptor family members. The bioreactor further comprises a nucleic acid encoding a cell retention agent, which is a macrophage migration factor (MIF), an extracellular matrix molecule, or a cell adhesion molecule. The other nucleic acid encodes a hormone, which is a growth hormone, insulin (preferred), **atrial natriuretic peptide**

(ANP), luteinizing hormone, follicle-stimulating hormone, releasing hormone, inhibin, relaxin, activin, or follitropin. It may encode a bioactive agent that is Factor V (FV), Factor VII (FVII), Factor VIII (FVIII), Factor IX (FIX), Factor X (FX), Factor XI (FXI), Factor XIII (FXIII), erythropoietin (EPO), growth hormone (GH), adenosine deaminase, thrombopoietin, purine nucleoside phosphorylase (PNP), Protein C, Protein S, an interleukin, an interferon, a globin, an antibody, or an antibody fragment. It may encode a fibrinolytic agent that is tissue plasminogen activator, plasminogen, plasmin, urokinase, or streptokinase. It may encode an anticoagulant that is thrombomodulin, a Protein C activating agent, Protein C, or antithrombin. It may encode a coagulant that is thrombin, fibrinogen, fibrin stabilizing factor, Factor IX (preferred), Factor VIII, von Willebrand factor, or Factor X. It may encode EPO. The nucleic acids are operably linked to promoters. The nucleic acid is in the form of a plasmid, or a recombinant insert in the genome of a virus that is an adenovirus (preferred), an adeno-associated virus, or a retrovirus. The nucleic acid is associated with a condensing agent that is a polycationic agent. One nucleic acid is associated with a cell surface

binding group, that is a polypeptide reactive with a fibroblast growth factor receptor, preferably FGF-1-21 or fragments that bind to the receptor. The biocompatible substance is a biological matrix that comprises a polymer, and is preferably collagen, including type I and type II collagen, a purified protein, a purified peptide, a polysaccharide, a glycosaminoglycan, or an extracellular matrix composition. The matrix comprises fibrin. The polysaccharide is chitosan, alginate, dextran, hyaluronic acid, or cellulose. The biocompatible substance is **degradable** or **non-degradable**. The biocompatible substance may be a metal, hydroxyapatite, or aluminate.

Preferred Method: The tissue site of the delivery method is the site of an iatrogenic injury and is an organ. The animal is a mammal, preferably a human. Subsequent to contacting the tissue with (I), (I) is supplemented with additional quantities of the nucleic acids, either separately or together. After cellular infiltration, a nucleic acid encoding a serum soluble protein is introduced into (I). The growth stimulating agent conditions matrix infiltrating cells for uptake of the nucleic acid encoding the serum soluble protein. The cells are stem cells, macrophages, fibroblasts or vascular cells. The nucleic acids are absorbed in or to, or are impregnated within the biocompatible substance. The biocompatible substance is a mixture of synthetic and biological materials. The growth stimulating agent is an angiogenic factor. (I) is seeded with cells prior to introduction to the tissue site.

L129 ANSWER-2-OF-3-WPIX COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 1999-313028 [26] WPIX

DNN N1999-233805 DNC C1999-092428

TI Inhibiting **decomposition** of **natriuretic peptides** useful for stable collection and storage of specimens for assay.

DC B04 J04 S03

IN ASADA, H; ENDO, K; SHIMIZU, H

PA (SHIO) SHIONOGI & CO LTD

CYC 81

PI WO 9922235 A1 19990506 (199926)\* JA 16p G01N033-48 <--  
 RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA  
 PT SD SE SZ UG ZW  
 W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE  
 GH GM GW HU ID IL IS JP KE KG KR KZ LC LK LR LS LT LU LV MD MG MK  
 MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US  
 UZ VN YU ZW

AU 9865208 A 19990517 (199939) G01N033-48 <--

EP 1030177 A1 20000823 (200041) EN G01N033-48 <--

R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

JP 11523656 X 20010313 (200117) G01N033-48 <--

CN 1283269 A 20010207 (200129) G01N033-48 <--

ADT WO 9922235 A1 WO 1998-JP1470 19980331; AU 9865208 A AU  
 1998-65208 19980331; EP 1030177 A1 EP 1998-911128 19980331, WO  
 1998-JP1470 19980331; JP 11523656 X WO 1998-JP1470 19980331  
 , JP 1999-523656 19980331; CN 1283269 A CN 1998-812645 19980331

FDT AU 9865208 A Based on WO 9922235; EP 1030177 A1 Based on WO 9922235; JP  
 11523656 X Based on WO 9922235

PRAI JP 1997-292982 19971024

IC ICM G01N033-48

ICS G01N033-53; G01N033-68

AB WO 9922235 A UPAB: 19990723

NOVELTY - A new method for inhibiting the **decomposition** of  
 mammalian **natriuretic peptides** in specimens comprises  
 using containers, where the specimen-contacting surface is made of a  
 material capable of inhibiting the activation of a substance  
**decomposing** the peptides.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the  
 following:

- (1) a method for assaying the **natriuretic peptides**  
 containing the **decomposition** inhibiting method; and
- (2) a peptide assay kit comprising the above vessel.

USE - The method can provide specimens without **decomposition** for assay of mammalian **natriuretic peptides**, particularly **BNP (brain natriuretic peptide)**, e.g. in diagnosis of heart diseases.

ADVANTAGE - The inhibition method is stable and reliable, without influence of storage and assay time. The process is simple and economical to give accurate diagnosis.

DESCRIPTION OF DRAWING(S) - Graph showing the residual **brain natriuretic peptide (BNP)** activity in a specimen stored (up to 24 hrs.) in a **silicone**-coating vessel (vs. an ordinary glass tube).

Dwg.1/3

FS CPI EPI

FA AB; GI; DCN

MC CPI: B04-N02; B04-N04; B11-C08; B12-K04; **J04-B01**

EPI: **S03-E14H**

TECH UPTX: 19990707

TECHNOLOGY FOCUS - BIOLOGY - Preferred Method: The mammal is particularly human, dog, pig, rat or mouse. The **natriuretic peptides** is **brain natriuretic peptide (BNP)**. The specimen does not contain aprotinin.

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Kit: The specimen does not contain aprotinin.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Material: The material that can inhibit activation of a substance **decomposing** peptide is **silicone** or a **plastic** material.

L129 ANSWER 3 OF 3 WPIX COPYRIGHT 2001 DERWENT INFORMATION LTD

AN 1987-104736 [15] WPIX

DNC C1987-043532

TI Sepn. of **natriuretic**, pressor and cardiogenic for urine - using **polystyrene resins** e.g. amberlite XAD-2 or **acrylic resins** e.g. amberlite (RTM) XAD-7 as absorbents.

DC A96 B04

PA (MOCH) MOCHIDA PHARM CO LTD

CYC 1

PI JP 62051620 A 19870306 (198715)\* 4p

ADT JP 62051620 A JP 1985-191740 19850830

PRAI JP 1985-191740 19850830

IC A61K035-22

AB JP 62051620 A UPAB: 19930922

Purificn. of biologically active substances derived from mammalian kidneys and which are responsible for **natriuresis**, blood pressure and systole regulation by contacting human urine with an adsorbing agent e.g. **polystyrene resin** or **acrylic resins**, adsorbing the active substances and then eluting them.

Pref. adsorbing agent is composed of **polystyrene resin** e.g. Amberlite XAD-2, XAD-4, SM-2 or SM-4. Pref. adsorbing agent is composed of **acryl resin** e.g. Amberlite XAD-7, XAD-8, or SM-7. After adsorbing the active substance is pref eluted with methanol. Using chromatography, 50- to 100-fold purificn. is possible. If further purificn. is needed, the substance is pref. subjected to cation-exchange chromatography, anion-exchange chromatography, gel filtrn. and reversed-phase HPLC. In filtrn. distilled water is pref. used as the eluent. In reversed-phase HPLC, water and acetonitrile are pref. used the eluents. Using these purificn. methods 1000- to 5000-fold purificn. is obt'd..

USE/ADVANTAGE - The substances have good **natriuretic** activity without **depressing** activity and are therefore effective as diuretics.

0/0

FS CPI

FA AB

MC CPI: A12-M; A12-V; B04-B04H; B12-F01B; B12-G03

=> fil medline

FILE 'MEDLINE' ENTERED AT 10:16:33 ON 08 AUG 2001

FILE LAST UPDATED: 6 AUG 2001 (20010806/UP). FILE COVERS 1958 TO DATE.

On April 22, 2001, MEDLINE was reloaded. See HELP RLOAD for details.

MEDLINE now contains new records from the former NLM HEALTH STAR database. These records have an Entry Date and Update Date of 20010223.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2001 vocabulary. Enter HELP THESAURUS for details.

The OLDMEDLINE file segment now contains data from 1958 through 1965. Enter HELP CONTENT for details.

Left, right, and simultaneous left and right truncation are available in the Basic Index. See HELP SFIELDS for details.

THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE SUBSTANCE IDENTIFICATION.

=> d-all-tot

L153 ANSWER 1 OF 10 MEDLINE

AN 1999394939 MEDLINE

DN 99394939 PubMed ID: 10464049

TI Assessment of the stability of N-terminal pro-brain  
**natriuretic peptide** in vitro: implications for  
assessment of left ventricular dysfunction.

AU Downie P F; Talwar S; Squire I B; Davies J E; Barnett D B; Ng L L

CS Department of Medicine and Therapeutics, University of Leicester, Robert  
Kilpatrick Clinical Sciences Building, Leicester Royal Infirmary,  
Leicester LE2 7LX, U.K.

SO CLINICAL SCIENCE, (1999 Sep) 97 (3) 255-8.  
Journal code: DIZ; 7905731. ISSN: 0143-5221.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199911

ED Entered STN: 20000111

Last Updated on STN: 20000111

Entered Medline: 19991119

AB Plasma concentrations of N-terminal pro-brain

**natriuretic peptide** (NT-proBNP) are raised in patients with left ventricular dysfunction. Measurement of this peptide has a potential diagnostic role in the identification and assessment of patients with heart failure. The stability of this peptide over time periods and conditions pertaining to routine clinical practice has not been reported previously. Blood samples were obtained from 15 subjects. One aliquot was processed immediately, and the remaining portions of the blood samples were stored for 24 h or 48 h at room temperature or on ice prior to processing. Plasma concentrations of NT-proBNP were measured with a novel immunoluminometric assay developed within our laboratory. Mean plasma concentrations of NT-proBNP were not significantly different whether blood samples were centrifuged immediately and stored at -70 degrees C or kept at room temperature or on ice for 24 h or 48 h. The mean percentage differences from baseline (reference standard) were +5.2% (95% confidence interval +18.2 to -7.8%) and +0.8% (+15.2 to -13.7%) after storage for 24 h at room temperature or on ice respectively, and +8.9% (+24.2 to -6.5%) and +3.2% (+15.1 to -0.9%) for storage for 48 h at room temperature or on ice respectively. Pearson correlation coefficients for baseline NT-proBNP concentrations compared with levels at 48 h at room temperature or on ice

were  $r=0.89$  and  $r=0.83$  respectively (both  $P<0.0001$ ). Thus NT-proBNP extracted from plasma samples treated with EDTA and aprotinin is stable under conditions relevant to clinical practice.

CT Check Tags: Female; Human; In Vitro; Male; Support, Non-U.S. Gov't  
Adult  
Aged  
Aged, 80 and over  
Biological Markers: BL, blood  
Blood Preservation  
Blood Specimen Collection  
Drug Stability  
Middle Age  
\*Natriuretic Peptide, Brain: BL, blood  
Temperature  
Time Factors  
Ventricular Dysfunction, Left: BL, blood  
\*Ventricular Dysfunction, Left: DI, diagnosis  
RN 114471-18-0 (Natriuretic Peptide, Brain)  
CN 0 (Biological Markers)

L153 ANSWER 2 OF 10 MEDLINE

AN 95153860 MEDLINE

DN 95153860 PubMed ID: 7850974

TI N-terminal proatrial natriuretic peptide and  
brain natriuretic peptide are stable for up to  
6 hours in whole blood in vitro.

AU Davidson N C; Coutie W J; Struthers A D  
SO CIRCULATION, (1995 Feb 15) 91 (4) 1276-7.  
Journal code: DAW; 0147763. ISSN: 0009-7322.

CY United States

DT Letter

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199503

ED Entered STN: 19950322

Last Updated on STN: 19990129

Entered Medline: 19950315

CT Check Tags: Human; In Vitro

\*Atrial Natriuretic Factor: BL, blood

Blood Specimen Collection

Drug Stability

Natriuresis

Natriuretic Peptide, Brain

\*Nerve Tissue Proteins: BL, blood

\*Protein Precursors: BL, blood

Time Factors

RN 114471-18-0 (Natriuretic Peptide, Brain); 85637-73-6  
(Atrial Natriuretic Factor)

CN 0 (Nerve Tissue Proteins); 0 (Protein Precursors); 0 (atrial natriuretic  
factor precursors)

L153 ANSWER 3 OF 10 MEDLINE

AN 95129246 MEDLINE

DN 95129246 PubMed ID: 7828325

TI In vitro stability of N-terminal proatrial natriuretic factor in unfrozen  
samples: an important prerequisite for its use as a biochemical parameter  
of atrial pressure in clinical routine.

AU Hall C; Aaberge L; Stokke O

SO CIRCULATION, (1995 Feb 1) 91 (3) 911.

Journal code: DAW; 0147763. ISSN: 0009-7322.

CY United States

DT Letter

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199502

ED Entered STN: 19950307



Last Updated on STN: 19950307  
Entered Medline: 19950222  
CT Check Tags: Human  
    **\*Atrial Natriuretic Factor: BL, blood**  
    **\*Blood Pressure**  
        **Blood Specimen Collection**  
        **Drug Stability**  
    \*Peptide Fragments: BL, blood  
    \*Protein Precursors: BL, blood  
        Temperature  
RN **85637-73-6 (Atrial Natriuretic Factor)**  
CN 0 (Peptide Fragments); 0 (Protein Precursors); 0 (atrial natriuretic factor precursors)

L153 ANSWER 4 OF 10 MEDLINE  
AN 94236818 MEDLINE  
DN 94236818 PubMed ID: 8181175  
TI Stability of plasma **atrial natriuretic peptide**  
after storage.  
AU Asaad M M; Dorso C R; Rogers W L  
SO CIRCULATION, (1994 May) 89 (5) 2457-8.  
Journal code: DAW; 0147763. ISSN: 0009-7322.  
CY United States  
DT Letter  
LA English  
FS Abridged Index Medicus Journals; Priority Journals.  
EM 199406  
ED Entered STN: 19940621  
Last Updated on STN: 19940621  
Entered Medline: 19940614  
CT Check Tags: Human  
    **\*Atrial Natriuretic Factor: BL, blood**  
    **Blood Specimen Collection**  
    **Drug Stability**  
    Time Factors  
RN **85637-73-6 (Atrial Natriuretic Factor)**

L153 ANSWER 5 OF 10 MEDLINE  
AN 94236817 MEDLINE  
DN 94236817 PubMed ID: 8181174  
TI **Atrial natriuretic peptides** are stable in  
plasma for 7 years.  
AU Vesely D L  
SO CIRCULATION, (1994 May) 89 (5) 2456-8.  
Journal code: DAW; 0147763. ISSN: 0009-7322.  
CY United States  
DT Letter  
LA English  
FS Abridged Index Medicus Journals; Priority Journals  
EM 199406  
ED Entered STN: 19940621  
Last Updated on STN: 19940621  
Entered Medline: 19940614  
CT Check Tags: Human  
    **\*Atrial Natriuretic Factor: BL, blood**  
    **Blood Specimen Collection**  
    **Drug Stability**  
    Time Factors  
RN **85637-73-6 (Atrial Natriuretic Factor)**

L153 ANSWER 6 OF 10 MEDLINE  
AN 94007079 MEDLINE  
DN 94007079 PubMed ID: 8403345  
TI Stability of plasma **atrial natriuretic peptide**  
.  
CM Comment on: Circulation. 1992 Aug;86(2):463-6

Comment on: Circulation. 1993 Apr;87(4):1428-9  
AU Tan A C; Kloppenborg P W; Benraad T J  
SO CIRCULATION, (1993 Oct) 88 (4 Pt 1) 1961-2.  
Journal code: DAW; 0147763. ISSN: 0009-7322.  
CY United States  
DT Commentary  
Letter  
LA English  
FS Abridged Index Medicus Journals; Priority Journals  
EM 199311  
ED Entered STN: 19940117  
Last Updated on STN: 19950206  
Entered Medline: 19931104  
CT Check Tags: Human  
\*Atrial Natriuretic Factor: BL, blood  
Blood Specimen Collection  
Drug Stability  
Drug Storage  
RN 85637-73-6 (Atrial Natriuretic Factor)

L153 ANSWER 7 OF 10 MEDLINE  
AN 93215092 MEDLINE  
DN 93215092 PubMed ID: 8462173  
TI Stability of plasma atrial natriuretic peptide

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CM Comment on: Circulation. 1992 Aug;86(2):463-6  
Comment in: Circulation. 1993 Oct;88(4 Pt 1):1961-2  
AU Flynn T G; Wigle D A; Pang S C  
SO CIRCULATION, (1993 Apr) 87 (4) 1428-9.  
Journal code: DAW; 0147763. ISSN: 0009-7322.  
CY United States  
DT Commentary  
Letter  
LA English  
FS Abridged Index Medicus Journals; Priority Journals  
EM 199304  
ED Entered STN: 19930521  
Last Updated on STN: 19950206  
Entered Medline: 19930430  
CT Check Tags: Animal; Human  
\*Atrial Natriuretic Factor: BL, blood  
Blood Specimen Collection  
Drug Stability  
RN 85637-73-6 (Atrial Natriuretic Factor)

L153 ANSWER 8 OF 10 MEDLINE  
AN 92346824 MEDLINE  
DN 92346824 PubMed ID: 1386291  
TI Plasma atrial natriuretic peptide is  
unstable under most storage conditions.  
CM Comment in: Circulation. 1993 Apr;87(4):1428-9  
Comment in: Circulation. 1993 Oct;88(4 Pt 1):1961-2  
AU Nelesen R A; Dimsdale J E; Ziegler M G  
CS Department of Psychiatry, University of California San Diego, La Jolla  
92093-0804.  
NC HL-35924 (NHLBI)  
HL-36005 (NHLBI)  
HL-40102 (NHLBI)  
+  
SO CIRCULATION, (1992 Aug) 86 (2) 463-6.  
Journal code: DAW; 0147763. ISSN: 0009-7322.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Abridged Index Medicus Journals; Priority Journals  
EM 199209

ED Entered STN: 19920911  
Last Updated on STN: 19950206  
Entered Medline: 19920903

AB **BACKGROUND. Atrial natriuretic peptide (ANP)**  
is a hormonal regulator of cardiovascular fluid volume. More than 1,000 scientific articles were written about ANP between 1987 and 1991. Because some articles hinted at problems with storing ANP, this study examined the effect of numerous techniques for storing and processing human ANP samples. **METHODS AND RESULTS.** Samples were obtained repeatedly from three patients, treated, and stored under a variety of conditions. Experiment 1 evaluated the effects of different preservatives at 35, 21, 14, 10, and 7 days before assay. Experiment 2 evaluated nonspecific binding of ANP to different storage tubes during 28 days of storage. Experiment 3 evaluated the effect of storage at -20 degrees C, -80 degrees C, and -196 degrees C for 1 month. ANP was very unstable, degrading as much as 30% after 3 days of storage and by more than 50% in 1 month even when stored at -80 degrees C. Only storage at -196 degrees C (in liquid nitrogen) kept ANP stable for 1 month. Extraction and lyophilization of the samples before freezing and assay within 7 days of freezing only partially minimized the amount of degradation. All other processing techniques had little effect on slowing the degradation of ANP. **CONCLUSIONS.** These findings raise disturbing questions about the interpretation of the substantial literature on ANP.

CT Check Tags: Human; Support, U.S. Gov't, P.H.S.  
\*Atrial Natriuretic Factor: BL, blood  
~~Blood Specimen Collection~~  
Drug Stability  
Drug Storage  
Edetic Acid  
Freezing  
Glass  
Polypropylenes  
Polystyrenes  
Trifluoroacetic Acid

RN 60-00-4 (Edetic Acid); 76-05-1 (Trifluoroacetic Acid); 85637-73-6  
(Atrial Natriuretic Factor)

CN 0 (Glass); 0 (Polypropylenes); 0 (Polystyrenes)

L153 ANSWER 9 OF 10 MEDLINE

AN 91326749 MEDLINE

DN 91326749 PubMed ID: 1830963

TI Adsorption of **atrial natriuretic peptide** to  
different materials: a factor influencing results of in vitro  
experiments?.

AU Lindberg B F; Andersson K E

CS Department of Clinical Pharmacology, University Hospital of Lund, Sweden.

SO PHARMACOLOGY AND TOXICOLOGY, (1991 Apr) 68 (4) 276-81.  
Journal code: PHT; 8702180. ISSN: 0901-9928.

CY Denmark

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199109

ED Entered STN: 19910929  
Last Updated on STN: 19910929  
Entered Medline: 19910910

AB Studies on **atrial natriuretic peptide (ANP)**  
in ex vivo situations, include a risk of adsorption to surrounding materials. In order to investigate this potential source of error, known concentrations of ANP in Krebs solution were prepared in test tubes of different materials. The solutions were analyzed for ANP-concentration by radioimmunoassay (RIA), using a standard-curve of ANP in phosphate buffer supplemented with 0.1% human serum albumin (HSA) and 0.1% Triton X100. A considerable adsorption was seen to the different materials tested, also to siliconized glass and polypropylene. With 1 ml ANP-solution in concentrations from  $1 \times 10^{-9}$  to  $1 \times 10^{-5}$  M an adsorption varying between 10 and 31% was seen to a 15 cm<sup>2</sup> polystyrene-surface, corresponding

to a conventional test tube. With 1 ml of ANP 120 pM in Krebs solution serially dispensed into six empty polystyrene test tubes, 73% of the initial peptide amount was lost due to adsorption. The adsorption could be prevented or partly reversed by adding HSA or Triton X100 to the solutions. These findings indicate that adsorption entails a risk of disturbing the results of in vitro experiments in studies on ANP.

CT Check Tags: Comparative Study; Support, Non-U.S. Gov't

**Adsorption**

**\*Atrial Natriuretic Factor: CH, chemistry**

Detergents

\*Glass: CH, chemistry

Octoxynol

**\*Plastics: CH, chemistry**

Polyethylene Glycols

Radioimmunoassay

Reproducibility of Results

Serum Albumin

RN 85637-73-6 (Atrial Natriuretic Factor); 9002-93-1 (Octoxynol)

CN 0 (Detergents); 0 (Glass); 0 (Plastics); 0 (Polyethylene Glycols); 0 (Serum Albumin)

L153 ANSWER 10 OF 10 MEDLINE

AN 91160132 MEDLINE

DN 91160132 PubMed ID: 2150014

TI Storage and thawing influence plasma levels of immunoreactive atrial natriuretic peptide.

AU Tan A C; Kloppenborg P W; Benraad T J

SO CLINICA CHIMICA ACTA, (1990 Oct 31) 191 (1-2) 111-3.

Journal code: DCC; 1302422. ISSN: 0009-8981.

CY Netherlands

DT Letter

LA English

FS Priority Journals

EM 199104

ED Entered STN: 19910505

Last Updated on STN: 19910505

Entered Medline: 19910415

CT Check Tags: Human

**\*Atrial Natriuretic Factor: BL, blood**

**Blood Specimen Collection**

**Drug Stability**

False Negative Reactions

\*Freezing

\*Heat

RN 85637-73-6 (Atrial Natriuretic Factor)

=> d his

(FILE 'HOME' ENTERED AT 08:32:41 ON 08 AUG 2001)  
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 08:32:53 ON 08 AUG 2001

E WO98-JP1470/AP, PRN

L1 1 S E3, E4

L2 6919 S NATRIURETIC PEPTIDE

L3 7 S ATRIALNATRIURETIC PEPTIDE

L4 5779 S ATRIAL NATRIURETIC PEPTIDE

L5 1114 S BRAIN NATRIURETIC PEPTIDE

L6 77 S GAMMA(L) L3, L4

L7 24 S GAMMA(L) L5

SEL RN L1

FILE 'REGISTRY' ENTERED AT 08:43:04 ON 08 AUG 2001

L8 8 S E1-E8

L9 5 S 9088-07-7 OR 85637-73-6 OR 114471-18-0 OR 92046-98-5 OR 12112

L10 6 S L8 NOT L9  
L11 4 S L10 AND PMS/CI  
E ETHANEDIOL/CN  
E C2H6O2/MF  
L12 45 S E3  
L13 14 S L12 AND 1 2 ETHANEDIOL  
L14 29555 S 107-21-1/CRN  
L15 11189 S L14 AND (C8H6O4 OR C8H4CL2O2)  
L16 14 S L15 AND 2/NC  
L17 8 S L16 AND 1 4  
L18 6 S L17 NOT (D/ELS OR MAN/CI)  
L19 10 S L11, L18  
E SILICONE/CN  
E SILICONIZE/CN  
E SILICON/CN  
L20 1 S E3

FILE 'HCAPLUS' ENTERED AT 08:55:20 ON 08 AUG 2001

L21 7315 S L9  
L22 9657 S L2-L7, L21  
E SHIONOGI/PA, CS  
E SHIONOG/PA, CS  
L23 8618 S E5-E11  
E SHIMIZU H/AU  
L24 ~~565 S E3-E5~~  
E SHIMIZU HIRO/AU  
L25 2 S E3  
L26 233 S E53  
E ASADA H/AU  
L27 62 S E3, E7  
E ENDO K/AU  
L28 293 S E3  
E ENDO KAZUAKI/AU  
L29 30 S E3  
L30 43 S L22 AND L23-L29  
L31 35 S L22 AND KIT  
E KIT/CW  
L32 8 S E3, E21 AND L22  
E TEST KIT/CT  
E E4+ALL  
L33 7 S L22 AND E2  
L34 35 S L31-L33  
E CONTAINER/CW  
L35 22033 S E4  
E CONTAINER/CT  
E E4+ALL  
L36 4 S E2+NT AND L22  
L37 4 S L35 AND L22  
L38 4 S CONTAINER AND L22  
L39 4 S L36-L38  
L40 14 S L19, L20 AND L22  
SEL DN 3 5 6 8 10-12  
L41 7 S E1-E7  
E POLYSILOXANE/CW  
L42 24511 S E4  
E POLYSILOXANE/CT  
E POLYSILOXANES/CT  
L43 24500 S E3  
E SILOXANE/CW  
L44 58615 S E3, E4  
E SILOXANE/CT  
E SILOXANES/CT  
E E3+ALL  
E E1+ALL  
L45 3472 S E1  
L46 473 S E3

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      E SILICON/CT
      E SILICONE/CT
      E SILICONES/CT
      E E3+ALL
L47      3 S E1
      E E2
L48      1 S L22 AND L42-L47
L49      8 S L22 AND ?SILICON?
L50      3 S L49 AND L34,L39,L41,L48
      E ACRYLIC POLYMER/CT
      E E15+ALL
L51      4 S E4,E3 AND L22
L52      1 S L51 AND L34,L39,L41
      E PLASTIC/CW
L53      3 S E3,E7 AND L22
      E PLASTICS/CT
      E E3+ALL
L54      0 S L22 AND E2,E3
L55      3 S L22 AND E1+NT
L56      12 S L22 AND E43
L57      1 S L22 AND E44
L58      30 S L22 AND PLASTIC?
L59      55 S L22 AND COAT?
L60      37 S L22 AND ?ACRYL?
L61      116 S L22 AND (?STYREN? OR PPG OR PET OR ?TEREPHTHAL? OR POLYPROPYL
L62      0 S SILICONIZE (L) ("L25" OR L 25)
L63      0 S SILICONIZE AND L22
L64      324 S ANALYSIS+NT/CT AND L22
L65      1600 S L9 (L) (ANST/RL OR ANT/RL OR PROC/RL)
L66      25 S L64,L65 AND L34
L67      2 S L64,L65 AND L39
L68      4 S L64,L65 AND L41
L69      3 S L64,L65 AND L48,L50,L52
L70      4 S L64,L65 AND L55-L57
L71      53 S L34,L39,L41,L48,L50,L52,L53,L55,L56,L57,L66-L70
L72      61 S L58-L61 AND L64,L65
L73      7 S L71 AND L72
L74      5 S L73 NOT (RNA OR SECOND)/TI
L75      31 S L66-L70 AND L71
L76      24 S L75 NOT L73
L77      13 S L76 AND (STABILITY OR RIA OR KIT OR RADIOIMMUN? OR IMMUNOASSA
L78      11 S L77 NOT INSTILLATION/TI
L79      54 S L72 NOT L71,L73-L78
L80      4 S L79 AND (CARTRIDGE OR QUANTITATIVE OR STABILITY OR DIRECT MEA
L81      20 S L74,L78,L80
L82      20 S L81 AND L1-L7,L21-L80
L83      3 S L82 AND CONTAIN?
L84      17 S L82 NOT L83
L85      15 S L83,L84 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L86      5 S L84 NOT L85
L87      20 S L82,L83
      SEL HIT RN

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FILE 'REGISTRY' ENTERED AT 09:41:58 ON 08 AUG 2001

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L88      9 S E1-E9
L89      2 S L8 NOT L88

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FILE 'REGISTRY' ENTERED AT 09:42:55 ON 08 AUG 2001

FILE 'HCAPLUS' ENTERED AT 09:43:19 ON 08 AUG 2001

FILE 'WPIX' ENTERED AT 09:44:05 ON 08 AUG 2001

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      E WO98-JP1470/AP,PRN
L90      1 S E3
      E G01N033-48/IC,ICM,ICS
L91      8683 S E3-E5

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L92 156 S L2-L7  
E NATRIUR  
L93 618 S E2,E4-E11  
L94 2 S E12,E13  
L95 586 S ?NATRIURET?  
L96 619 S L92-L95  
L97 17 S (M424 OR M740)/M0,M1,M2,M3,M4,M5,M6 AND L96  
L98 1851 S (M424 OR M740)/M0,M1,M2,M3,M4,M5,M6 AND L91  
L99 1832 S Q435/M0,M1,M2,M3,M4,M5,M6 AND L91  
L100 3 S Q435/M0,M1,M2,M3,M4,M5,M6 AND L96  
L101 10 S Q620/M0,M1,M2,M3,M4,M5,M6 AND L96  
L102 100 S Q620/M0,M1,M2,M3,M4,M5,M6 AND L91  
L103 28 S L97,L100,L101  
L104 1671 S J04-B01/MC AND L91  
L105 2 S J04-B01/MC AND L96  
L106 29 S L103,L105  
L107 3281 S L98,L99,L102,L104  
L108 1 S L106 AND L107  
L109 10 S S03-E14H?/MC AND L106  
L110 10 S L101 AND L106  
L111 2 S L110 AND L108,L109  
L112 8 S L110 NOT L111  
L113 19 S L106 NOT L110  
L114 533 S G01N033-53/IC,ICM,ICS,ICA,ICI AND L91  
L115 33 S G01N033-53/IC,ICM,ICS,ICA,ICI AND L96  
L116 25 S L115 NOT L106  
L117 400060 S ?TEREPHTHAL? OR POLYPROPYLENE OR POLYETHYLENE OR POLYSTYRENE  
L118 722096 S PLASTIC? OR SILICON? OR POLYSILOXANE OR POLY SILOXANE OR ?SIL  
E TEREPTHAL/DCN  
E E5+ALL  
L119 1861 S E2 OR 0702/DRN  
L120 140 S E4  
E POLYETHYLENE/DCN  
E E4+ALL  
L121 8084 S E2 OR 0326/DRN  
E POLYPROPYLENE/DCN  
E E4+ALL  
L122 5924 S E2 OR 0964/DRN  
E POLYSTYRENE/DCN  
E E4+ALL  
L123 7934 S E2 OR 0708/DRN  
L124 9 S L117-L123 AND L96  
L125 705 S L117-L123 AND L91  
L126 3 S L124 AND (DEPRES? OR DEGRAD?)  
L127 2 S L126 NOT PULMONARY/TI  
L128 1 S L124 AND DECOMPOS?  
L129 3 S L127,L128 AND L90-L126

FILE 'WPIX' ENTERED AT 10:05:58 ON 08 AUG 2001

FILE 'MEDLINE' ENTERED AT 10:06:10 ON 08 AUG 2001

L130 11234 S L9  
L131 7676 S L2-L7  
E NATRIURET/CT  
E E71+ALL  
E E2+ALL  
L132 10615 S E10+NT  
E BRAIN NATRIURETIC/CT  
E E4+ALL  
E E2+ALL  
L133 1001 S E11+NT  
L134 12499 S L130-L133  
L135 677 S L19  
L136 2536 S L20  
L137 2536 S SILICON/CT,CN  
L138 256 S POLYETHYLENE/CT,CN

L139 1658 S POLYPROPYLENE/CT,CN  
E POLYSTYRENE/CT  
E E4+ALL  
L140 4783 S E15,E16,E17  
L141 4783 S E15,E16,E17/CN  
E TEREPHTHAL/CT  
E E7+ALL  
E E2+ALL  
L142 3385 S E8/CT,CN  
E PLASTIC/CT  
E E36+ALL  
L143 6073 S E7  
L144 17548 S E24-E30  
L145 791 S E32  
L146 6 S L134 AND L135-L145  
SEL DN 2 4  
L147 2 S E1-E4  
E BLOOD SPECIMEN COLLECTION/CT  
E E3+ALL  
L148 27 S L134 AND E8+NT  
E DRUG STABILITY/CT  
E DRUG STABILITY/CT  
E E3+ALL  
~~L149 23045 S E9+NT~~  
~~E DRUG STORAGE/CT~~  
~~E E3+ALL~~  
L150 2807 S E9+NT  
E ADSORPTION/CT  
E E3+ALL  
L151 13409 S E5+NT  
L152 9 S L148 AND L149-L151  
L153 10 S L147,L152 AND L130-L151

FILE 'MEDLINE' ENTERED AT 10:16:33 ON 08 AUG 2001  
SET COST ON

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